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10 June 1980

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2015

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GDR PARTICIPATION IN SOVIET OIL INDUSTRY DESCRIBED

AU071623 East Berlin BERLINER ZEITUNG in German 5 Mar 80 p 4

[Dispatch from Moscow correspondent Harry Gelhaar: "Lenin's Doctrine--Guideline for the Activities of Millions: Oil Under Frozen Soil; GDR Plants Are Showing Their Worth at 50 Centigrade Below Zero in the Siberian Taiga"]

[Excerpts] We are driving on a concrete road rather worn by heavy pipe transports and cross-country tracked vehicles to the oilfield of Fedorskoye, 70 kilometers north of Surgut. In the middle of the Taiga the first oil enrichment plant delivered by the GDR is rising above the frozen ground. In the coming 5 years another 25 such plants are to be built increasingly farther north, deep in the polar circle. Eight GDR specialists are now working there directing and controlling Soviet brigades carrying out the work.

At first the USSR employed domestic plants for the dehydration, desalinization and cracking of the natural gas. In 1975 the GDR undertook to manufacture these plants within the framework of CEMA. The Soviet Union provided a proven technology for all this but also leveled high demands. The new assemblies must be highly automated so as to enable operations with a minimum of labor in the severe climate. At the same time the existing environment requires that the plants remain absolutely safe operationally at temperatures down to 55 degrees centigrade below zero. This required switching to a method of building boxes in which the GDR hardly had any experience. This involves accommodating the appliances of each technological sector in small closed rooms where a temperature of at least 5 centigrade above zero must be steadily maintained. It is by means of these plants that our republic is paying for a large portion of its oil imports. The price per ton is considerably lower than the world market price.

How does GDR technical equipment stand the test in the Taiga? This is what I asked deputy chief engineer Aleksandr Felikaov, a soberminded technician. "The entire plant will only be completed in April. But the core, the stove (to be technically more accurate one would have to term it the oilheater), from the Magdeburg Karl Liebknecht heavy machine-building combine has been working in continuous operation for 2 months without complaints. The gas driers have been operating in Nizhnevartovsk for 2 years. As to the remaining components, an engineer can see that from the blueprints that they also are worked out in an excellent manner. I can only congratulate my colleagues from the GDR on their many ideas."

CSO: 2300

CZECHOSLOVAKIA

IMPORTANCE OF VALUE ADDED INDICATOR EXPLAINED

Prague HOSPODARSKE NOVINY in Czech 4 Apr 80 p 6

[Article by Eng Vilem Strnad of the VHJ Metallurgical Secondary Production in Prague: "The Comprehensive System of Efficiency Criteria: Experiences in Implementing the Comprehensive Experiment"]

> [Text] The information in the article "New Elements in Planning and Measuring Efficiency" (HOSPODARSKE NOVINY No 21, 1979) that the VHJ [economic production unit] Metallurgical Secondary Production has been testing the efficiency of the comprehensive value-added method (Prof Eng Frantisek Brabec played the major role in its design) has aroused considerable interest. The principles of the comprehensive experiment adopted the value added indicator for regulating wage development and for [computing] material incentives. The purpose of this article is to provide information on our experiences of the last 2 years which will contribute to an understanding of the main principles of the value added method and of why these methods are more advanced than those based on an indicator for the value of production as a whole, e.g. gross output, output of goods, receipts, total output, etc.

The comprehensive system of criterial indicators has been used for evaluating and measuring economic effectiveness at the VHJ Metallurgical Secondary Production ever since we began testing the efficiency of the new elements of planned management. This system comprises 20 indicators of the evolution of effectiveness applicable both to the VHJ as a whole and to each of the 14 subordinate enterprises. Evaluation and analysis are conducted continuously in comparison both with the plan and with the figures actually achieved for the comparable previous period (month, quarter, year) and over the course of the testing since it began in 1977.

It Is Not Just an Ordinary Indicator

The value added method attaches especial importance to retrospective analysis as a comprehensive means of providing information for evaluating what succeeded, and how and why it did in the past period, and as one of the provisions for ensuring the optimal dynamics of effectiveness starting with the plan. For this reason the VHJ conducted an analysis of post-1975 effectiveness for the VHJ and for the enterprises within the compass of the criterial indicators. For purposes of comparison the figures actually achieved are recalculated on the basis of the terms of the experiment and in prices valid since 1 January 1977. (According to the principles of the comprehensive experiment it is obligatory to subtract from the base figures the price advantages for goods of the first quality-class, price disadvantages for goods of the third quality-class and the effects of changes in wholesale prices.) In recalculating the figures actually achieved differences resulting from the new wage distribution and bonus fund adjustments must be included.

What are the relations between the productivity of live labor and material costs? At the VHJ Metallurgical Secondary Production we have been studying the efficiency of labor productivity indicators, both for live labor (from value added, value newly contributed) and the so-called national productivity (from net output). For purposes of comparison the indicator for gross-output productivity continued to be monitored. Changes in the material costs of production are evaluated in the portion of material consumption going to value added.

In contemplating the progressive development of these indicators in the results, we observe a regular relationship. For a difference in rise of the labor-productivity indicators, the rule is that a greater increase in productivity in net output is accompanied by a greater increase in material demands, and vice versa. Here we find the answer to why we are substituting the value added indicator for the net output indicator.

The value added indicator entirely eliminated the effect of material costs, since it measures the value of output minus the value of materials consumed. In the comprehensive experiment also excluded are financial costs (except social welfare contributions), thus interest costs, shrinkage, penalties, shortages, etc.

The 2 years of experimenting with the value added method at the VHJ Metallurgical Secondary Production have proved that it is not only possible, but, for the future effective development of the VHJ, necessary to retain this method permanently and to incorporate it into our operating practices. A retrospective analysis of the Sixth Five-Year Plan shows a trend of live-labor productivity rising faster than productivity as measured by net output, with a decreasing share of material costs in production. In some of the enterprises the differences are especially marked, and over the course of the experiment they continued to increase. This occurs when significant changes, that is product innovations, are being made in the structure of output.

In the basic materials for the Seventh Five-Year Plan at the VHJ, the growing share of non-material intensive products and products with leveling-off material demands, for example traditional metallurgical products, the indicator for the material-intensiveness of output continues to decline, and thus also the rising course of the net output indicator. Using the traditional approach, i.e., measuring the labor productivity from net output, would lead to a situation where it would be necessary to restrain innovation, increase material consumption and intra-enterprise cooperation. But this will not be necessary. The value-added indicator will solve this problem. It also makes it possible to make adjustments in specialization and concentration of production with the VHJ.

What We Are Specifying Within the VHJ

On the basis of the results of our 2-year experiment, the VHJ management made the decision not to specify volume indicators for net output for their subordinate enterprises for 1980.

What were specified were all the mandatory targets of the state plan, which included, in the area of labor and the economy, increases in the number of workers and the norm for the fraction of the basic wage determined according to value added, and profitability. The other indicators specified, including the value added and the profit indicators, are orientational in nature. In the plan for production and for final sales (deliveries to the domestic market, export and capital construction), those specifically identified items in physical units that the state plan sets for the VHJ, and those whose increase or decrease the VHJ, in its responsibility for meeting needs, considers it desirable to set limits on for the enterprises, in some cases even specifically designating a definite product mix.

Does not specifying a net output indicator mean that there is a risk for the VHJ that plans will not be progressive? Not at all. In the economic area sufficient flexibility is provided by the specifications for worker activity and initiative; for the counter-plan, the increase in wages is orientational in nature. Establishing enterprise plans of production and sales on the basis of orders and a concrete knowledge of needs while avoiding those tendencies that previously led to an unearned increase in the net output indicator will be to the advantage of the entire society. Society is coming to realize that low growth in net output indicators, accompanied by a corresponding decrease in the consumption of materials from the preceding period are a desirable social result. In this way we also eliminate what in the past was often added to the net output indicator through economically unjustified intra-enterprise cooperation.

The 2-year experiment shows that the collectives of workers are interested in improved elements in planned management, since these affect their material self-interest. They understand the quantitative changes; there are no important problems here. But what is difficult is overcoming customary practices and blindly followed routines in planning material costs. Here it is necessary to understand and implement this method, to plan, measure and evaluate the indicator for material consumption in an entirely different way. The method introduces an indicator for this, the so-called criterial indicator of product innovations, which is determined retrospectively. This is a coefficient of the movement of material demands and the movement of work intensiveness [the amount of work necessary for completing a product]. Both these criterial indicators should fall in the production process.

A criterial indicator of product innovations higher than one means a switch to more material-intensive production, and vice versa. The retrospective analysis shows how it developed (for the VHJ as a unit it fluctuated between 0.97 and 0.99). The deviations from the development determined through the retrospective study motivate a change in the structure of output from that of the previous conditions. The change can be seen in the formulation of the plan of output in natural units. Experience shows that this method is simple and reliable.

There are two other conditions for understanding and using the improved method in practice for planning, measuring and evaluating the consumption of material:

--establishing that the creation of wholesale prices in effect since 1 January 1977 is in accordance with the value added method: whether the direct consumption of material is assessed for an individual item, whether there are other material costs and wages (processing costs) in the entries of the workshop, administrative, supply and sales divisions, and whether the profit is calculated only from processing costs, allowing for the volume of production funds tied up;

--omitting the previous assessment of the decrease or the increase of the material-intensiveness of production (consumption of material) as savings or as material cost over-runs as a percentage of total output.

The Archilles' Heel of the Method

Understanding the necessity for abandoning the traditional indicator for proportion of total costs and material costs for adjusting outputs is essential for efficiently implementing the value added method. The tradition is so firmly entrenched that both of these indicators were even retained in the principles of the comprehensive experiment. In this regard it should be perfectly clear that the proportion indicator cannot have a higher value than its base, and here it is a matter of outputs that in the comprehensive experiment are only an informational indicator.

In the value added method it is necessary to plan, measure and evaluate material costs separately because:

--the consumption of material bears a direct relationship to the valuational indicators of the industries as a whole; it creates the material (physical) substance for products, it is thus not used in creating the final product, in the social aggregate it is duplicative and is basically covered by the value of deliveries for production consumption;

--the other material costs are directly related to the value added indicator (they are paid for out of its value), they are used in producing the finished product, in the social aggregate they are one-time, primary, non-duplicative.

The comprehensive utilization of the value added method in [illegible] in the productive sphere is, as proved by our 7 years of experience in using it, simple, rational and progressive when it is understood and used comprehensively.

8805
CSO: 2400

CZECHOSLOVAKIA

URGENT NEED TO EXPAND KHOZRASCHET DISCUSSED

AU221156 Prague RUDE PRAVO in Czech 19 May 80 p 3

[Article by Jan Cima, candidate of sciences and CSSR deputy minister of finance: "To Reinforce Effectively the Khozraschet Relations"]

[Excerpts] Specific Forms of Reinforcing the Khozraschet [Cost Accounting System] Relations

On the basis of an analysis of the present situation in implementing khozraschet relations and the financial instruments of management in general, it has been concluded that it is necessary to intensify khozraschet relations in the next period by developing them as follows:

--To create more effective economic incentives; that is, to increase the stake in, and responsibility for, the achievement of certain production results;

--To finance the needs of the enterprise to a decisive extent from enterprises' own resources, including writeoffs and [commercial] credits; to plan and use subsidies for selected branches and in exceptional cases only; to implement this principle, it is imperative to raise the resources at the disposal of the enterprise and to reduce payments to the state budget by roughly 10-15 percentage points (this is a preliminary prognosis);

--On this basis, and to an extent delimited in advance, all the positive and negative consequences following from the enterprises' operations are to influence the results of management efforts and the incentive-creating measures.

--In connection with the definition of an industrial production unit (VHJ) as the basic link in the management of the enterprise, to work out the understanding of khozraschet relations within the VHJ framework in a way which would neither nullify the results achieved by organizations managing their affairs well nor compensate those managing them badly.

To this skeleton definition of the development of khozraschet relations, we must unambiguously add that the basis for developing them is the plan; and the basic role in this respect will be played by the five-year plan. That is so because all the fixed quantifications of the five-year plan (tasks, limits and standards) will represent--after the plan is adopted--a kind of criteria-like khozraschet relations (quantitative) for defining strict khozraschet principles according to which the planned needs can be realized in the course of the five-year plan--and from the very moment it is expanded down to the different units--only on condition that the planned volume for generating resources is fulfilled. To put it simply, the needs of the enterprise cannot be strictly defined in one way only, such as the past tendency to regard the generation of resources as a variable category, both in time and in volume.

To Correctly Grasp and Implement the Principles

The directions for intensifying khozraschet relations mentioned above are very important from the viewpoint of their correct interpretation. On no account may they be interpreted as though the economic development of the enterprise were governed by money; it will proceed from the plan; but at the same time it will require, to an adequate extent, the satisfaction of needs according to the fulfillment of the planned generation of resources, as the logical reflection of the creation and use of the appropriate part of the national income.

Khozraschet relations are to be intensified both in the investment and in the noninvestment spheres. In the sphere of investment financing the following khozraschet principles are primarily envisaged:

--Investment needs will be financed from the investment fund and from the newly established development and standards fund. In this we proceed from the precept that centralized construction projects (including loan repayments) will be financed from the investment fund. The fund resources will consist of profits, writeoffs and possibly subsidies and other resources (contributions, receipts from the sales of liquidated capital assets and so forth). The development fund will be used for financing so-called limited [limitni] investments (including repayments and credits). The resources of the fund will come from profits, writeoffs and, as a complementary resource, from an allotment out of the export monetary incentive fund, from preferential pricing and so forth. The development fund will be created out of long-term returns (profits, writeoffs), but its use will depend on the fulfillment of fixed conditions (efficiency criteria);

--The invoicing system will be more thorough and deliveries for investments will be billed according to projects and operational groups [operacni soubory]. The system of monthly installments--which will be stopped should the deadline not be met--is to be strengthened. Performance deposits [kolaudacni srazka] will be mandatory and will be paid out only after rectification of shortcomings;

--A principle will be established according to which the failure to meet deadlines and the exceeding of budgeted prices will be penalized, part of the penalty will be assessed against the development fund;

--In order to observe the planned balances, the central branch bodies will create (in the plan details) reserves for the case that planned resources (of the development fund) are exceeded;

--A very important measure is the demand that the planned return on new investments, based on set parameters, be consistently reflected in all parts of the state and economic plans;

--The set of measures imposes tasks for the elaboration of the incentive system and accountability, by all involved, for capital investment.

These are the basic factors which will be further defined in the appropriate regulations and conditions.

A basic measure, already well-enough known to our economists, is the establishment of an export incentives fund in which the profit from foreign trade will not be shown as a part of the profit balance, but--with the exception of the portion which is to subsidize the aforementioned fund--will be paid directly (from receipts) into the state budget. The export incentive fund will be drawn upon in such a way as to encourage the best possible results in foreign markets.

A new aspect is that subcontractors--who participate to a significant degree in the exports of finished products--also will set up an incentives fund to stimulate exports. (This will involve a mutual agreement on co-participation in the given export incentive system.)

The Goals of Objective Stimulation

The expansion of the khozraschet relations concerns all economic areas. During the preparations of the aforementioned directions and tools, extraordinary attention was paid to strengthening the incentive and cultural and social funds. The main changes are in that the allocation ceiling has been set at 2.8 percent (in terms of the volume of wage funds). The increased allocation will be made possible through subsidized pricing (or imposition of levies when the opposite is true) and from the export incentive fund respectively for complying with the indexes of the utilization of capital assets.

So that the industrial production units and individual enterprises can be objectively assessed and motivated, conditions will be set in such a way as to stimulate the industrial production units as entities but also to evaluate the economic results of individual organizations. In other words, to prevent lumping together, for better effect, good and bad production results at the industrial production unit level.

The sequence in the use of the enterprises' resources has also changed; the subsidies to the incentive funds follow only after the payments to the state budget and after the contribution to the special purpose funds. That is designed to have a strong effect on generation of resources that are large enough to enable subsidies to the incentive funds. The resources at the enterprises' disposal will continue to be cut even more intensively by using fines, sanctions and similar financial penalties for production shortcomings.

It is thus not true, as many people assume, that the mere fulfillment of conditions already justifies a claim for and a possibility to obtain subsidies to the funds. Just to have a formal claim for subsidies, it is essential to have the necessary financial resources at one's disposal. That is a very important general condition. Similarly, there is the regulation that savings in wages (the difference between the pay one is entitled to and the actual pay) can be transferred to the special compensation fund only if one has the financial resources at one's disposal. The meaning of this regulation is much more profound than it may seem at first sight.

I have mentioned in a summarized form selected specific forms of expanding khozraschet relations. What is involved is a whole complex of measures and economic regulations that will be worked out and elaborated in keeping with the conditions of the respective branches while sustaining their overall concept.

The expansion of the khozraschet relations in harmony with and following the federal plan, which is the framework for the development of khozraschet (it is an internally balanced plan that is being emphasized) has many forms. In their totality they are designed to enhance our productive efficiency and bring about a more consistent application of important principles in the management of the socialist economy, principles which we recognize on the general plane but which we deplorably fail to implement consistently. The development of khozraschet is also designed to make a more significant contribution to the solution of other problems in the fiscal sphere, to greater use of financing, credits and fiscal-economic tools to achieve a closer harmony between the material and value aspects of the replacement process and a balanced development of the economy.

CSO: /400

CZECHOSLOVAKIA

SYNTHETIC FIBER PRODUCTION UNDER FOREIGN LICENSE QUESTIONED

Prague RUDE PRAVO in Czech 5 May 80 p 5

[Article by Miloslav Vltavsky: "The Tempest Over 'Resistex'"]

[Text] The researchers named the white soft cotton resembling real cotton or a natural fiber "Resistex." Compared to classical materials their fiber possesses quite extraordinary characteristics such as very light weight, elasticity, resistance to great temperature changes and the ability to be converted to a solid substance. No wonder that power engineers in all sectors of the economy expect great things from this material.

Let us hope that their expectations are justified. RUDE PRAVO (which has been writing about "resistex" for the sixth year now) has already mentioned a number of examples of successful application of "resistex." One of the most recent examples comes from the Prague cooperative Keramo where, according to informations furnished by Eng Hanzlick, "resistex" was used in a second kiln for firing ceramics. In addition to saving 250,000 kWh annually "it allowed the manager of the operation to offer for the first time free kiln space to other projects of the cooperative."

This is genuine progress in the area of kiln linings. Kiln output is increased even though kiln capacity expressed in physical units (cubic meters) remains the same.

Eng Pavel Prostejovsky called the experience the VHJ Vitkovice has made with the industrial production of the fibers more than satisfactory. "The equipment works at full capacity, the quality of the fiber is equal to the quality achieved at the research institute."

Earliest Production Sought

The above suggests that "resistex" should be introduced wherever any energy saving can be achieved. Development work has advanced to the point where fibers can not only be woven but also processed into shaped blanks permitting a high degree of prefabrication. Teplotechna workers have already built various types of kilns from building elements made of this material.

Therefore, even this aspect of possible future application of this material by consumers has been resolved. The material promises not only to save energy but also increase labor productivity, reduce the need for replacement parts etc. Only one thing is missing for these expectations to come true--adequate production capacity of this fiber.

The Project Is Ready

Our readers may recall that we reported on the intention of building a manufacturing facility at Kamenice nad Lipou and adapting the Broumov Works to the production of this fiber within the framework of prospective reconstruction. The first project is in an advanced stage of preparation and preliminary work on the project has been completed on 30 April 1980 with the documentation ready for project certification. Participating suppliers will at the same time become acquainted with the project, in an earlier preparation stage a number of them have already responded favourably to the request for cooperation: ZVVZ Milevsko, two CKD Praha factories, the [illegible] Works at Karlovy Vary, EZ Praha, Skoda Plzen, the Prerovske Engineering Works and a prime building contractor, the Jihlava Works of Prumyslove Stavby Brno. The capital project also has a prime machinery supplier in addition to a highly experienced engineering enterprise which is able to supply even very complicated machinery and volunteered to make deliveries for the project, an offer which is especially rare in our circumstances.

The second project--modernization of the Broumov Works--is not proceeding promisingly. Many reasons are surely being given but such justifications will not produce the needed fiber. Some factors were obviously underrated when the project was originally considered and that has backfired on the proponents.

Not At All Cost

The failure to fulfill this obligation to society may be behind a new proposal: to make up for it by producing the material in license. But here even facts need to be brought up to illuminate the consequences of such a step.

Research was carried out successfully by Czech industry, proof of which is that the inventors received a state award. But at the time of completion of the research work the industrial sector had no intention of exploiting the result which is why it was sold to the Czech building construction sector where the additional research step of molding the fiber into blanks was completed. The building construction industry prepared the plans for a manufacturing facility and found interested Czechoslovak suppliers. Foreign suppliers of supplementary equipment were also located.

And precisely at this point the Czech industrial sector, which had no intention of exploiting the research result at the time of its completion, proposes to import the manufacturing equipment and produce resistex in license first at the Lesni brana Works of Sklounion and later apparently also at Kamenice nad Lipou.

Facts Which Must Not Be Overlooked

The foreign trade enterprise chosen to conduct negotiations about the purchase has one offer from the USA. A similar business transaction is naturally subject to approval by American authorities. To accept this offer is rather risky considering the economic pressure the Carter Administration is putting it allies under such as the boycott of the Moscow Olympic Games.

Additional factors will have to be considered when choosing between competing offers: the molybdenum electrodes, the high revolution defibering discs, fuse box sensitivity and finally the control equipment microprocessors. Some of this equipment is vital for the production process and the necessary spare parts could at times become unobtainable. Nor are they cheap. For example, one of the offers, albeit from another part of the world than where negotiations are to take place, appeared to be reasonable. But spare parts were to be purchased from the supplier on a contractual basis. Just the extrusion jets, which have a life of one week, cost $12,000 dollars. At that rate we could have a whole new manufacturing installation in 10 years.

Eng Miloslav Dockal, director of the institution which developed the resistex production process, comments: "In our defibering method a qualified toolmaker can produce the necessary part in one shift." And Eng Pavel Prostejovsky from the VHJ Vitkovice adds: "Our entire installation is made in Czechoslovakia. Aside from the medium pressure steam generator, which would have to be imported to avoid laying a three kilometer long steam feed line, part of the hydraulic equipment which would have to be imported would cost about half a percent of the overall cost of the installation.

Therefore, the authorities considering the purchase of the license should explain:

1. Why the purchase of a license is being considered at a time when construction based on Czechoslovak research is almost about to begin.

2. If we wanted to have the fiber immediately why was the license not bought before spending money on an expensive research project.

3. Will the negotiations about the license hold up construction of the factory at Kamenice nad Lipou?

8664
CSO: 2400

IMPROVEMENT IN SPECIALTY STEEL NOTED

Prague RUDE PRAVO in Czech 5 May 80 p 5

[Text] Of the many types of steel produced in our metallurgical works one is so-called free-cutting steel which, compared to other steel types, is very easily machined. It is produced to be machined by machine tools with high labor productivity. Machine parts of most varied types are made from it such as all types of bolts, nuts, couplings, valves, watch parts, parts of measuring and recording instruments, motorcycles and bicycles, machine tools and office machinery and tens of other products.

Easy machinability of free-cutting steels is achieved by alloying, using mainly sulfur and phosphorus. But these alloyed steels are hard to produce in metallurgical works and especially hard to roll. Cases are known where the steel disintegrated during rolling.

The brittle and poor surface quality tendencies of free cutting steels can be demonstrably reduced by reducing the carbon content which at the same time increases machinability. But the carbon content affects the mechanical characteristics of steel, therefore, it must be replaces with other elements.

A new solution replacing carbon was found by the collective led by Eng Milan Onderka from NHKG Ostrava. It is based on the idea of using the microalloying technique which by the addition of a small amount of some elements affects the internal structure of steel, increases its strength while maintaining workability, achieving high quality surface in rolling and guaranteeing the customers easy machinability. Niobium or titanium are used for microalloying which nobody has ever used before in free-cutting steels.

Improvement of the quality of steel in metallurgical works has resulted in a dramatic reduction of rejects from 44.7 to 2.2 percent which is an accomplishment equalling the world standard. A further result was improved quality of the material delivered to tens of customers where it reduced the percentage of rejects and improved machine-cutting productivity. In addition, the national economy will save 4743 tons of metal annually.

CSO:
[illegible]

BRIEFS

FODDER HARVESTING HINDERED--Although the time for harvesting bulk fodder has arrived, agricultural enterprises in the CSR are not completely ready for it. By now all of the agricultural implements and machinery should be repaired and ready for field work. However more than one-tenth of the E-280 self-propelled field choppers have not been repaired, as well as almost one-fifth of the SPS-420's. Only in Southern Moravia more than 90 percent of this equipment has been repaired. In regard to the repairs of the E-301 hay crushers, the situation is even worse. Only over three-fourths of all hay loaders are operational and roughly one-third of the high pressure balers are awaiting repairs. The cause of this unsatisfactory situation is primarily caused by a shortage of spare parts. Repairmen at the agricultural enterprises, State Tractor Stations and the agricultural machinery repair workshops are therefore trying to recondition spare parts or cannibalize parts from other equipment which is in poor mechanical condition. [Excerpts] [Prague LIDOVA DEMOKRACIE in Czech 15 May 80 p 1]

CSO: 2400

GERMAN DEMOCRATIC REPUBLIC

BRIEFS

GDR, SWEDISH TRADE DEVELOPMENT--The 10th meeting of the Committee for the Promotion of Trade Between the GDR and Sweden, which took place in Berlin on Wednesday [16 April], discussed concrete steps for the further development of the economic, industrial and technical cooperation between companies of the two countries. [East Berlin NEUES DEUTSCHLAND in German 18 Apr 80 p 2]

FRENCH TECHNICAL DAYS CONCLUDE--The "French technical days" were successfully concluded on Friday [18 April] in the Berlin International Trade Center. The French organizers assessed the strong interest on behalf of GDR experts to be a good basis for the further economic and scientific-technical cooperation between the two countries. The French ambassador in the GDR, Henry Bayle, gave a reception on the occasion of the conclusion of the French technical days. [East Berlin NEUES DEUTSCHLAND in German 19-20 Apr 80 p 1]

CSO: 2300

HUNGARY

DEPARTMENT HEAD INTERVIEWED ON DOMESTIC TRADE PRICE POLICY

Budapest FIGYELO in Hungarian No 17, 23 Apr 80 pp 1,7

[Interview with Dr Ferenc Spilak, head of Economics Department, Ministry of Domestic Trade, by Gabor Karsai: "Business and Price Policy in Domestic Trade"]

[Text] The general obligation to file notices of producer price increases expired on 1 April. With this, the new price mechanism became truly operational. Yet, there is a great deal of uncertainty, even among specialists, regarding this new outlook and the interpretation and implementation of new legal provisions. This is also true in domestic trade, a sector whose behavior equally influences the situation of producers and consumers. What is the right business and price policy for domestic trade enterprises? This was the topic of discussion between Dr Ferenc Spilak, head of the Economics Department at the ministry of Domestic Trade, and our reporter Gabor Karsai.

[Question] The price system introduced this year assumes that a balance exists between supply and demand. Yet we see an increasing number of goods that are in short supply and a reduction in imports that could stimulate competition. How does this affect the real operation of the price mechanism?

[Answer] The new price mechanism cannot be separated from the changes in the entire system of regulators introduced at the beginning of the year. In the case of domestic trade, profit incentive primarily means an incentive to increase volume combined with reduced costs. The only way for enterprises to increase sales volume is to adjust to demand as regards their selection, quality and price. In this sense the consumer price system does not assume a balance between demand and supply: just the opposite, one of the important functions of consumer prices is to contribute to a balanced market.

The number of shortage goods has indeed gone up during the first months of the year. Socialist imports of consumer goods this year will be about the same as last year, i.e., we were unable to achieve a planned increase. The volume of capitalist imports is expected to decline. Due to greater than usual difficulties in base material supplies, domestic industry was unable to meet contractual obligations during the first two months of the year. These problems are, on the whole, unrelated to the new price mechanism.

[Question:] But I do not think the reverse is true: price trends are affected by these problems. When supplies lag behind demand, we may see price increases precisely as a result of prices acting to create balance, as we discussed above.

[Answer:] This is not quite correct. On the one hand, the way for domestic trade to control a shortage situation is not by increasing prices but by doing everything possible to obtain the goods that are in short supply. We made some progress in this area in the past: domestic industry has undertaken to increase shipments; the import potential of certain goods has improved and domestic trade is paying more attention to consumer demand when placing orders. Also, the shortage goods are not all included in the free price sector. For example, the price ceilings applying to certain consumer durables and construction materials that are in short supply make it impossible to raise prices.

The decrees concerning the new price mechanism define the methods for calculating producer and consumer prices. The obligation to prepare cost calculations is valid for almost the entire national economy. If an enterprise does not conform to regulation, for example, by calculating profits which exceed those obtainable from exports, then the resulting price is unacceptable and sanctions may be applied. The category of disproportionately high prices also serves as a limiting factor preventing the abuse of shortages or monopoly positions. The extension of the obligation to file notices of price changes before they are put into effect also serves as a protection for existing price levels.

There are ways to dampen the effects of export and import price rises propagating through the economy. This may be done by means of exchange rate policies and reduction of turnover tax where it exceeds normative levels. We can see a warning, however, in the larger-than-planned increase in producer prices druing January and February. These price changes are being monitored by price authorities and price control organizations: where price calculations are in error, enterprises must implement retroactive price corrections.

Adjustment to supply and demand is a dangerous area where undesirable developments are possible. We must see, however, that there exist some limitations. One of these is enforcement of the decree on unfair profits; another is the existence of sanctions in the case of disproportionately high prices or the use of price bargaining, to mention one tool that is also available to enterprises.

[Question:] If the domestic costs of producers cannot be brought in line with prices calculated according to the competitive price system, they will have an interest in lowering quality. Is domestic trade prepared to reject goods when quality does not correspond to the price charged?

[Answer:] The question whether producer enterprises have an interest in lowering quality should be investigated by looking at industry. Our position is that, since domestic producer prices reflect export prices in the competitive sphere and profit rates are also the same, quality must also be up to export standards. Domestic trade enterprises must specify quality standards in the contracts they sign and insist on the same standards when accepting shipments. If a quality inspection shows that the product is below first class, then the price paid must be in proportion to quality, i.e., the industrial enterprise must accept a price reduction as well as a demand for the payment of penalties for non-performance.

Of course, this is also a matter of the balance of power. Some producers will refuse to sign contracts if the conditions are unfavorable to them. In these cases domestic trade enterprises are correct in refusing to accept delivery of goods of substandard quality delivered after the season is over: several of them have done so in recent years. Trade enterprises are forced to do this in part because it is difficult today to sell certain types of goods, even at reduced prices, if their quality is below certain minimum standards (of course, this is less true for some types of products than others). Trade enterprises must be ready to live with a few weeks of delay in deliveries or even temporary shortages in the case of products where suitable substitutes exist, if this is what it takes to force suppliers to perform better. In such cases it is very important to inform the public about the causes of temporary shortages.

[Question:] What happens when domestic producers are unable to make their products at the required price and therefore stop production or are unwilling to continue production unless their price is raised?

[Answer:] The point in such cases is that the product in question is uneconomic for the manufacturer. One can assume, and regulations encourage this, that manufacturers will do everything in their power to make their production economic, especially in those areas that are very important to them. If this is unsuccessful, they will probably stop production of the goods in question. We are one hundred percent behind the modernization of our industrial product structure which implies, of course, the elimination of uneconomic products. Our starting point is the recognition that this is indispensable for more efficient production and improved national economic balance.

There are two ways of making up for production cutbacks: either there is another domestic producer who is willing to make the product or we must import. Of course, the new supplier must have incentives to produce. This is accomplished by preferential credit terms and by permitting a price that makes the product economically viable for him. This price will probably be higher than the price of the old product; from the standpoint of supplies, however, it is more important to have a product available at a higher price than to have an inexpensive product that is unobtainable.

The favorable effect of product structure transformation on the balance situation is also a precondition for increased imports. However, in this area we still have some problems.

The inevitable reductions in imports resulted not only in a narrower product scale: the fact is that domestic industry is unable to replace certain lost products. In the long run, we must restore or even increase the 20 percent share of imports we once reached; this is an important precondition for shifting production and supplying demand. In addition, experience shows that even the small competitive role of imports affected production, e.g., strict insistence on suitable quality or price that is in proportion to product quality; here, let me refer to the preceding question.

[Question:] According to the trade policy guidelines, starting from 1980 price policies of domestic trade enterprises will no longer be evaluated in terms of price margins; instead, the basic yardstick will be the "proportionality" of prices. But, due to the lack of real competition, trade enterprises can produce profits merely by the use of price policy, i.e., raising their prices. How is it possible to encourage more efficient work by enterprises?

[Answer:] The new trade profit rates will provide for costs, risktaking and normative profits of the average enterprise. Of course, each enterprise is in a different situation. For example, those who in the past were subject to unit trade tax and therefore lost more than the average in profits, or had above average standards of cost management, have an above average situation at the present time. Others will require much tighter management than in the past. As I said, trade enterprises must earn their profits by reducing costs and increasing sales. We do not consider price increases as a factor that can play a major role in determining profit levels.

Proportionality is needed where disproportionate prices, i.e., mechanical cost calculations would result in prices that would distort the market. For example, the price of the Minimat automatic washing machine was raised on 7 January of this year. The Evrika, made in the USSR, is of somewhat lower quality. Due to the lowering of the ruble multiplier and the profit margin and the elimination of import sales tax the price of the latter should have been reduced significantly if a mechanical price calculation method were used. However, trade enterprises decided to do otherwise. In my opinion, it was the correct decision to set the price of a product such as this, representing a small fraction of the total market for automatic washing machines (which are, in any case, in short supply), at a level proportional to the price of the domestically produced model.

On the other hand, proportionality of the price of imported goods meant a price reduction for some clothing articles because the decree on consumer price calculation says that proportionality always means proportionality relative to the domestic product.

[Question:] Price calculation based on proportionality can result in excess profits, especially in the case of certain imported products. Since in such cases proportionality is within the realm of the enterprises involved in wholesale trade, and since most of the products imported into our country pass through the hands of wholesale trade enterprises before they reach the shops, we may see unjustified differences in profitability with retail trade enterprises getting the short end of the stick. How can we change that?

[Answer:] As the preceding examples show, proportionality is especially important when it comes to calculating the price of imported products. In the case of domestic products the basic price relationships are reflected in producer prices (of course, these may also be prices adjusted for proportionality); financial bridges, i.e., turnover taxes and price supports, may also be set according to the relationship between demand and supply, i.e., proportionally. For example, if clothing articles would contain an 11 percent normative turnover tax in 1980 instead of 27 percent, this would destroy the relationship between demand and supply and would quite clearly distort the market. Of course, wholesale and retail trade enterprises can adjust the price of domestic products to make them proportional, if this is correct in their judgement regarding the market for a certain product.

It is true that, since the overwhelming majority of imports goes through wholesale trade enterprises, these enterprises are also responsible for adjusting the price of imported products for proportionality. In areas where retail enterprises have a direct involvement with foreign trade (there are such examples) proportionality naturally falls within the realm of retail trade.

The aim of the Ministry of Domestic Trade is to encourage rationalization of the movement of goods: unnecessary steps must be eliminated from the movement of imported goods. Along with their expanding wholesale activities, retail enterprises will also carry out the adjustment of the price of imported goods.

[Question:] Experience shows that the price of many highly sought-after goods declined while the price of some hard-to-sell items went up. Thus, the current behavior of enterprises is characterized more by a rigid adherence to profit margin guidelines than by price policies accompanied by the dangers discussed above. This is due to the high level of uncertainty regarding the practical judgment of price authorities on what constitutes unfair profit. How is it possible to separate earned from unearned profits? How and when should retail enterprises "return" profits above those defined by the guidelines to the consumer? Is it possible that enterprises with excessive profit levels will be hit by a special tax?

[Answer:] Trade enterprises received producer prices at a very late date. Therefore, calculation of proportional prices was possible only in a few extreme cases. Inventories, the implementation of the 7 January price changes, followed by the continuous price changes in accordance with new deliveries represented such an enormous task that enterprises were "happy" to be able to follow these changes mechanistically.

In my opinion enterprises will have a more active price policy starting with the second quarter, based on the experience of the first three months of the year. At the same time, the truth is, that as a result of producer and consumer price changes, April will bring more enormous tasks for domestic trade, similar to last January. So if not in April, then somewhat later we will see proportional prices.

Trade enterprises are no longer required to prepare profit margin plans. The yardstick of price policy is the implementation of correct, proportional prices. Increased margins and profits in no way imply that enterprises obtained them by unfair means. Therefore, it is not the enterprise that has the burden to prove that it operated fairly: in each case, the price authority must show that the profits of the enterprise were obtained by unfair means. I am certain that above average profits will not be taken away in the form of special taxes; however, legal remedies will be used whenever profits are amassed by unfair means.

On the other hand, enterpreneurship and risktaking must result in well-deserved profits and fair earnings. If, for example, a trade enterprise can streamline the movement of some goods or improve its position with producers and is thereby able to improve its margins then this should represent fair earnings in their entirety. To mention another example, if an enterprise takes a risk by introducing a new product or offering a product before the season, getting ahead of the competition, then it is acceptable for them to obtain extra profits, provided there is consumer demand in a market that is willing to pay the price. Later, when other enterprises are also marketing the product, the price may decline; it may also stay at the same level, provided that more can be sold at the same price. If the consumer accepts the price than it cannot be an unfair price.

[Question:] This means that the price of a product may be two or three times higher than what is justified by the cost, without any unfair profits?

[Answer:] In principle, yes. I do not think it likely, however, that such large price differentials could exist: a 10 to 30 percent divergence is more realistic, in general. The extent to which product prices should be adjusted is determined by market conditions, the price of similar products supplied by other enterprises and the price of substitute products. These are the factors we will look at when we investigate unfair profits.

[Question:] The preceding discussion shows that the same product can be sold by different trade enterprises at different prices. The decree of the

Council of Ministers on price regulation expressly forbids agreements between competing enterprises to set product prices with the aim of eliminating competition. Nevertheless, recently we saw price controllers urging enterprises operating in the same area to reconcile their prices, when possible. What is your opinion about this?

[Answer:] Perhaps I should illustrate my position by means of an example. Recently one of our dailies dealt with the price of skis for children. This item was sold by one enterprise last year at a very low price in honor of the International Year of the Child; Skala and other enterprises sold it at a price several time higher. For example, the Bizomanyi purchased used skis at a price very close to the one charged by Skala. I think it is incorrect, from the standpoint of business policy, to sell a luxury product imported from a capitalist country at a discount price and thereby distort the market. I think the practice followed by Skala was correct.

It is very important for price control authorities to base their judgment of the business and price policies of enterprises on the price guidelines. Price policy is a matter for enterprises; since individual enterprises are free to follow their own business policies and pricing practices, they may have different judgments regarding market conditions and therefore may arrive at different prices.

Enterprises formulating their business policy should utilize the opportunities offered by price increases, price reductions or stable prices. It is necessary to have relatively cheap goods to attract customers to the store. We are also encouraging enterprises to use part of the excess earning obtained as a result of price adjustments or risk funds to compensate for relatively small fluctuations of purchase prices that have no effect on demand and to organize further commercial actions. Delaying the effects of certain price changes may ensure that prices remain unchanged for a definite period, i.e., one quarter or one season. This helps customers in keeping track of prices and also relieves store employees of a great deal of extra work.

It is necessary, on the other hand, to differentiate when one judges seemingly insignificant price changes: in the case of inexpensive goods the entire commercial margin amounts to a few pennies. If this margin vanishes, the product will be uneconomic.

[Question:] You mentioned inexpensive items. On 1 January the profit margin on spare parts was reduced. What is behind this change, when one of the reasons for bottlenecks in spare parts supplies has always been the insufficient incentive for commercial enterprises?

[Answer:] The fundamental problem of incentives exists for manufacturers and not for trade enterprises. When they produce according to existing demand, the trade enterprises are fully capable of marketing their product. When calculating profit margins we based ourselves on average profitability of enterprises as a whole in accordance with their individual profiles. Spare parts have free prices. Therefore, those costs that are demonstrably not covered by profit margins can be included in price calculations. Since, however, in principle enterprises must make money in terms of their total operations, we ask them to be careful in determining the size of their price increases.

We have little information on the operation of the newpprice mechanism. This year is likely to become a year of learning for enterprises and price authorities. Experience will show where the work of enterprises must be improved and price structures modernized.

9164
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DEVELOPMENT, TASKS OF ENERGY PLANS DISCUSSED

Budapest ENERGIAGAZDALKODAS in Hungarian No 3, Mar 80 pp 99-104

[Lecture by Istvan Haaz, head of National Energy Authority, at the National Energy Seminar held in Budapest, 21 Sep 79]

[Text] Energy use by the national economy has been growing at an average annual rate of 4.5 percent during the past 20 years. This growth rate was dictated by the development and structural transformation of the economy combined with the composition and efficiency of energy sources. There have been significant deviations from the average in some years due to weather and production factors.

The annual growth rate of energy use is expected to be between 4.3 and 4.5 percent during the Fifth Five-Year Plan. This is below the level originally projected by the plan. Accordingly, during the plan period energy consumption will increase from 257 Pcal in 1975 to an expected 317 to 320 Pcal in 1980.

During the first few years of the plan period consumption levels were essentially in agreement with projected levels. In 1978, however, true energy consumption was about 301 Pcal, i.e., almost 7 percent above the preceding year. Thus, in order to comply with 1980 projected energy consumption it will be necessary to hold the annual consumption growth rate in 1979-1980 at 2.9 to 3.1 percent. Changes in external conditions and ongoing measures make this goal realistic; this is also indicated by the fact that 1979 consumption growth rate is about 2.3 to 2.5 percent.

The energy producing and importing sectors have fulfilled the requirements of the national economy in the preceding period of the Fifth Five-Year Plan. There have been no energy shortages or significant restrictions in the productive sphere or in supplies to households. The energy sector is preparing to carry out the same task during the remaining years of the plan period.

The structure of domestic fuel consumption is expected to develop during the Fifth Five-Year Plan period of the national economy as follows: the share of coal will decline from 36.7 percent in 1975 to 28.5 percent in 1980 and the share of hydrocarbons will increase from 56.2 percent to 62.2

percent. Within the latter, the growth of liquid hydrocarbons will be relatively moderate compared to natural gas whose role will increase from 19.2 percent in .975 to 24.5 percent.

The main points of the requirements regarding the composition of energy sources have been fulfilled during the portion of the Fifth Five-Year Plan already completed. World market prices remained high: this highlighted the importance of reducing, when possible, the imports of energy from non-socialist countries. This means, first of all, a reduction in imports of crude oil and oil products from capitalist markets. At the same time, secure supply of energy requirements, in terms of quality and selection, makes it necessary to utilize domestic production protential as much as possible and to maximize the use of domestic mineral resources within sensible limitations. As a result of these considerations, the following deviations from the national economic plan can be expected in the structure of domestic energy use in 1980 (provided that there is a slowdown in the growth rate of consumption in 1979-80 relative to the preceding years):

--use of hydrocarbons (in particular, crude oil and oil products) will be below the lower limit of the plan;

--the use of coal and other forms of energy (including imported electrical energy) is expected to be above planned levels.

Coal consumption during the Fifth Five-Year Plan has been characterized by the fact that consumers required more coal than planned. Increased demand for coal by the population required increasing amounts of excess coal imports, although the coal mining industry keeps overfulfilling the production targets set by the national economic plan.

Thus, domestic coal production and coal imports are expected to be higher than projected by the national economic plan: with 24.4 to 25.0 million tons of production and 1.8 to 2.0 million tons of import.

The difference between coal consumption and available resources appears to be a long range factor that will also affect the first few years of the Sixth Five-Year Plan. The increased coal consumption in excess of plan targets was the result of government measures aimed at the stabilization of coal use by HVMT [expansion unknown] as well as households and industrial consumers other than power plants. HVMT power plants were required to maximize their coal use and the authorities took steps to limit the conversion of industrial boilers to hydrocarbons.

Changes in solid fuel demand by the general population are especially important among these consumer groups. The energy demand calculations of the Fifth Five-Year National Economic Plan assumed a 13 percent decline in coal consumption by the communal sector, especially in view of earlier price measures involving energy. But in fact the demand for coal has stabilized at a constant level.

At the same time the production capacity of existing mines declined at a more rapid rate than planned. Due to these two factors, excess imports will be necessary to hold on to existing consumers until the new eocene mines start production.

The coal needed for ensuring continuous supplies to consumers will be provided in part by further coal production above plan (presumably, during holiday shifts) and in part by coal imported in excess of long range bilateral agreements.

Excess coal imports are needed mainly to supply the fuel needs of the communal sector. For this reason, the import will consist in part of fuels directly usable by the population and in part of base materials for briquet manufacture.

Exploration activity aimed at finding new hydrocarbon deposits has continued during the Fifth Five-Year Plan. Use of secondary and tertiary oil production methods became more important in this plan period. The latter was used to produce about 300,000 tons of crude oil in recent years. Under these conditions it was possible to conserve crude oil production as originally planned at an annual level of 2.0 million tons; in some years, production was even higher.

In order to limit the load imposed on the balance of trade with capitalist markets, minimizing oil imports denominated in dollars has been a high priority goal during the Fifth Five-Year Plan. Socialist oil imports were at planned levels. Capitalist imports are expected to be substantially below planned levels in 1980; this is, however, predicated on a much slower growth in demand during 1979-80 than in preceding years.

In view of present trends and further efforts toward economic use the projected 1980 volume of crude oil refining will be 8 percent below the provisions of the plan.

With the new installations of the oil industry, domestic oil refinery capacity will grow to 15.0 million tons by 1980.

The Fifth Five-Year Plan saw the completion of the pipeline network used to transport domestic and imported crude oil to processing plants. In addition to the Friendship 2 pipeline with a final capacity of 10 million tons operating sine 1972, 1978 saw the completion of the Adria pipeline whose domestic branch has a capacity of 5 million tons. This means that there will be no need to construct additional oil pipelines during the Sixth Five-Year Plan.

There will also be a substantial increase in oil storage capacity during the Fifth Five-Year Plan. This means that average storage levels will increase from a 25 day supply in 1975 to 28 days in 1980. As a result, the oil industry has sufficient storage facilities to satisfy seasonal fluctuations in demand, i.e., it will be possible to eliminate the need for uneconomic "forced" exports or imports.

Domestic consumption of oil products during the plan period is expected to be below planned levels, although the role of different sectors in achieving this goal will vary.

This is because there will be a substantial increase in the number of freight transportation vehicles and automobiles: the latter will grow faster than planned. Although the number of automobiles is expected to be over 1 million by 1980, gasoline consumption will not go up significantly because total mileage and use per vehicle will both decline as a result of various measures.

The growth rate of diesel oil use by the transportation sector has declined. Within this, diesel oil use by railroads will increase significantly as a result of a substantial increase in the role of diesel locomotives. Fuel demand in agriculture was above planned levels in some years as a result of the weather and increased yields.

Heating oil production and consumption are expected to be below targets set by the national economic plan by the end of the Fifth Five-Year Plan.

The planned volume of annual domestic natural gas production in 1976-80 was 6 billion cubic meters. In the middle years of the plan period it became necessary to increase natural gas production to levels substantially exceeding the plan (e.g., by 20 percent in 1978).

In addition to domestic natural gas production, natural gas imported from the USSR played a decisive role in the development of natural gas use during the period between 1975 and 1980. Deliveries from the USSR to our country started in 1975; by 1980, they will reach an annual volume of 3.8 billion cubic meters, as planned.

Preparation for a substantial increase in imports during the Fifth Five-Year Plan also played a role in the temporary but substantial increase in domestic natural gas production above planned levels during 1977-79. Even with this, consumption structure is still unable to adjust to sharp jumps in supplies; as a result, there will be a rapid, temporary increase in natural gas consumption by power plants.

Industrial use of natural gas in 1980 is expected to be near levels set by the Law on the Fifth Five-Year Plan; natural gas use by the general population will be higher.

Optimal use of the natural gas system is ensured by the consumption of so-called buffer natural gas stocks by MVMT hydrocarbon power plants. This buffer natural gas represents about 50 percent of the hydrocarbon requirements of MVMT; almost in its entirety it replaces import heating oil paid for in dollars.

Supplies of pipelined or bottled gas to households are expected to be higher than envisaged in the plan. Thus, in 1980 we look for 935,000 households with pipelined gas and 2.2 million households with bottled gas, together representing 83.3 percent of all households.

In order to compensate for fluctuations in output requirements related to seasonal natural gas consumption, the underground gas storage facilities in Hajduszoboszlo, Kardoskut and Pusztaederics will be completed and in operation by the end of the Fifth Five-Year Plan.

In terms of the total energy supplies of the Fifth Five-Year Plan we can state that they definitely reflect energy policy guidelines occasioned by the explosion of the world market prices for energy, i.e., preference for domestic resources and solid energy forms as well as a reduction in consumption of hydrocarbons. The main characteristic of this plan period is energy conservation; on the other hand, it will no doubt be necessary to make serious efforts toward ensuring that targets are reached at planned low levels.

The energy needs of the Sixth Five-Year Plan correspond to the main goals of economic development and preliminary economic policy guidelines relative to production and distribution. Thus, the energy supply sector reflects the tasks of the Sixth Five-Year Plan as defined by the program platform adopted by the 11th Congress of the MSZMP, relative to the accomplishment of long range social and economic tasks.

In terms of the development directions and dimensions of energy resources designed to supply energy needs and the coordination of requirements and resources, these guidelines are correlated with the basic principles of long range energy policy accepted by the leading organs of the party on the basis of wide ranging studies at the end of last year.

Accordingly, the following are the main points considered in defining energy use:

--starting from quantitative and qualitative requirements posed by economic development and the modernization of the technical quality, structure and organization of production, ensuring sufficient energy supplies while at the same time aiming for rational and economic use of energy, wide ranging energy saving measures and the elimination of waste that still exists in some places;

--in conjunction with the goals of our policy on living standards, ensuring the energy supplies of the general population combined with gradual development of the energy infrastructure differentiated according to geographic location;

--consistent application of the principle of minimizing social cost in supplying energy needs by analyzing sensible security requirements and risk factors.

The cost of supplying energy needs will increase. The development needs of energy producing sectors will already exceed 40 percent of industrial investment during the Fifth Five-Year Plan, compared to between 30 and 35 percent during previous plans. The cost of imported energy will also go up. Under these conditions, especial attention needs to be paid to close coordination of energy and economic development because this sector exercises a considerable influence over the pace of national economic development and the trade balance as a result of increasing costs.

Among the external factors, the most important is the jump in world market prices of energy in 1973. All domestic and international forecasts assume continuing high fuel prices and even further price increases. Fuel imports represent a substantial currency burden already in the Fifth Five-Year Plan period and this burden will continue to increase. In addition, there will be limitations on increasing fuel imports from socialist countries where there were none in previous decades.

International cooperation developed on the basis of the long range energy program of CEMA countries provides a solution for supplying electrical energy needs until 1990 (domestic nuclear power plant construction, electrical energy import). "Traditional" foreign trade methods of supplying hydrocarbon needs from socialist markets will encounter increasing difficulties. It is unlikely that such imports could be increased after 1980.

The purchase of needed additional supplies of crude oil from capitalist countries (basically, Mid-East countries) will encounter increasing currency difficulties and is in conflict with our goals of improving the balance of payments.

Internal conditions affecting energy (limitations on the availability of economic resources) and the deterioration of external factors (especially high energy prices) are expected to be durable trends that have a major effect on our long range energy policy actions.

Slowing the growth rate of energy demand and, in particular, reducing purchases paid for in dollars, are clearly in our interest.

In conjunction with the preliminary economic guidelines of the Sixth Five-Year Plan, assuming the introduction of more consistent, radical energy saving measures and improved efficiency of energy use during the Sixth Five-Year Plan, the hope is that it will be possible to keep the growth rate of energy use at a much lower level than in previous years at an annual rate of 3.1 percent.

This assumes that the above-mentioned and already approved energy policy goals and conservation measures aimed at influencing the development of energy use are implemented without fail and, as a result, the 1985 level of domestic energy consumption can be reduced by 12 to 14 Pcal. This would represent total 1985 energy consumption levels at 375 Pcal.

This would mean that the energy consumption of the national economy would increase by about 16 percent, with the following major characteristics:

--use of refined and transformed energy, especially electrical energy, will increase at an above average rate;

--in the final use of energy resources, the role of communal and household sectors will increase significantly, in close conjunction with changes in the way of life of the population resulting in rapidly increasing demand for transformed energy (electrical energy, central heating, gasoline). In terms of final use, the growth in consumption by the communal sector will represent 34 percent of the total growth in consumption during the Sixth Five-Year Plan;

--the role of agriculture in energy consumption will also increase: in line with production and technological goals, energy consumption in agriculture will increase by about 25 percent.

Similar to total energy requirements, energy development goals of the Sixth Five-Year Plan assume slowed growth in electrical energy requirements (5.6 percent annually). This rate is not supported by factual data thus far in the Fifth Five-Year Plan, taken in isolation. A slower growth rate assumes tighter management of electrical energy in supplying production and communal or household needs: in some areas, this means administrative intervention by authorities and suitable economic regulations (price and rate measures).

Demands of efficiency and economic balance require an adjustment of the structure of energy consumption to correspond to energy resources that can be most advantageously utilized within the limits of technical and economic possibilities. This demands two things:

--maximal use of domestic production potential, whenever economically justified;

--in this connection, minimization of dollar-denominated oil imports; the use of all other economically competitive resources or savings in consumption to accomplish this goal.

Coal production will be developed on the basis of maximal rational use of domestic energy resources in line with proved coal reserves, labor conditions and technical development (mechanization) goals; in view of the gradually declining production capacity of existing mines, this will be done by accelerating the startup of new eocene mines. This means that we expect coal mining to deliver 66.7 Pcal in 1980 and 74.5 Pcal in 1985.

In line with coal policy guidelines emphasizing the efficient utilization of our mineral raw material reserves and savings in hydrocarbons we took effective steps aimed at the stabilization of coal consumption:

--central government intervention took place to ensure that the coal consumption of domestic power plants reaches the maximum level that is technically feasible. Accordingly, utilization of coal-based power plants is in excess of 90 percent of capacity;

--to stabilize industrial coal use outside of power plants, a number of industrial enterprises were called upon to satisfy their long term heating needs based on coal (until 1990);

--as a result of the implementation of a permit system for energy use it became possible to prevent unjustified conversion from coal to hydrocarbon fuels;

--rationing of Hokalor heaters and selective consumer price increases in the area of heating fuels resulted in a reduced rate of decline in communal coal consumption and a stabilization of communal coal requirements;

--regulation of trade in oil products contributed to the stabilization of coal consumption;

--to create the background necessary for industrial coal use the development of suitable types of coal-fired industrial boilers has begun, although some industrial users are reluctant to place timely orders for coal-fired boilers and often prefer to install hydrocarbon-fired boilers which are easier to put into operation but have higher operating costs.

Supplying the increased consumer demand for coal created as a result of the above measures can lead to temporary difficulties, especially in the household/communal sector, because:

--household demand for solid heating fuel requires high quality lump coal;

--demand in this area is subject to significant fluctuations due to the weather: consumption can vary greatly from year to year.

Supplying the demand for coal in 1980 and at the start of the Sixth Five-Year Plan requires maximum utilization of domestic coal production capacities, including the organization of holiday shifts. Maximum security of supplies to consumers requires coal production of at least 25 million tons annually. In addition, it will be necessary to import 300,000 to 400,000 tons of coal annually to complement the present level (1.3 million tons per annum), in part to supply the base material for briquet factories and in part to cover direct household needs.

The fact that until the new eocene coal mines start production, the national economy will be forced to import excess coal on a temporary basis, does not contradict the fundamental correctness of our coal policy with its emphasis on increased use of domestic resources in supplying energy demand. After the new mines come on line, the expansion of the utilization of domestic coal will continue and existing coal consumers will be preserved:

--no hydrocarbon-based power plants will be built during the plan period; electrical energy will be supplied by coal-based and nuclear power plants;

--we will continue the permit system which allows direct influencing of fuel consumption;

--consumer price measures will be used to encourage solid fuel use;

--the quality and selection of fuels will be improved in order to hold on to communal and household consumers in the future.

The chief goal of the Sixth Five-Year Plan in the energy field, i.e., that of ensuring that demand growth will be less than in the present plan period, must be reached primarily by reducing demand for the most expensive form of energy: oil. Between 1976 and 1980, demand is increasing by about 26 percent; for the period of the Sixth Five-Year Plan, we look for a growth of 14 percent.

Due to the condition of our hydrocarbon reserves, the primary prerequisite for crude oil and oil product supplies is the preservation of domestic crude oil production at an annual 2.0 million ton level; this requires continued intensive exploration activity.

Imports will continue to account for an increasing percentage of crude oil and oil product needs. In 1980 we will import about 8.5 million tons of crude oil and [number illegible] tons of oil products from the USSR. In negotiating long term contracts with the USSR our aim is to preserve and, when possible, expand the volume of crude oil deliveries. Accordingly, excess demand will necessitate dollar-denominated crude oil imports (probably purchased from developing countries). The central task of our energy management activities is to hold such needs to the minimum.

The goal of relatively moderate growth in demand for oil products can be realistic only if measures toward energy saving are efficient enough. In any case, we must expect the balance of heating oil to be deficitary during the middle years of the plan period. Balanced supplies of gasoline can be ensured only by supplementary imports which will clearly mean imports paid for in dollars.

Over the whole plan period we can count on a constant rate of natural gas production at an annual rate of 6 billion cubic meters to provide the domestic resources needed to cover natural gas consumption during the Sixth Five-Year Plan. Starting from 1981 this will be augmented by 0.5 billion cubic meters of natural gas with high inert gas content and about 4,000 kcal/m^3 caloric value to be used by the Tisza Thermal Power Plant.

According to our present information, the amount of natural gas imports from the USSR will remain unchanged during the Sixth Five-Year Plan at an annual level of 3.8 billion cubic meters in 1980. At the same time, in our bilateral negotiations with the USSR we are aiming at a possible increase in this volume of natural gas. We can expect to receive 0.2 billion cubic meters of natural gas imported from Romania only until the expiration of our contract in 1983.

Thus, the sources of natural gas remain practically unchanged during the Sixth Five-Year Plan. In spite of this, we expect more modest growth in natural gas use in the area of household, communal and industrial consumption. These quantities will come from the buffer natural gas taken from power plants; the output will come from underground storage capacities. Based on our calculations it will be necessary to increase the 350,000 cubic meters per hour of underground gas storage capacity available in 1980 according to the plan to about 680,000 cubic meters per hour by 1985.

In the course of the Sixth Five-Year Plan the consumption of natural gas by power plants will decline gradually at a rate governed by the needs of more efficient sectors of the national economy to be developed in the future. Using the buffer gas consumption opportunity in power plants will help in bridging the contradiction caused by the fact that extra import sources will enter the system at a relatively rapid rate in 2 years while the preparation and connection of users requires a more extended period.

We intend to utilize the essentially constant quantities of natural gas sources available during the entire Sixth Five-Year Plan (about 10 billion cubic meters annually) relying only on a minimum of network expansion, primarily by intensifying consumption by existing users and areas connected to the existing pipeline system.

Above average increases in natural gas use will occur mainly in the household and communal sector because:

--this is the area where natural gas use is most efficient;

--improving heating convenience is a task of social policy in addition to being a question of energy management;

--the volume of natural gas use by the household and communal sector is still relatively low compared to total consumption in the national economy (about 10 percent); therefore, continuing the inclusion of new customers will improve the structural efficiency of gas use. At the same time it must be noted that peak demand in this consumer sphere is rather substantial. This will require increasingly tight management of natural gas output.

Growth of household and communal gas use is encouraged only in areas where such use is sufficiently effective in terms of economic efficiency. The basic points of the policy on connecting new customers are as follows:

--in developing pipelined gas supplies to households, an economic cost ceiling relative to the establishment or expansion of gas distribution networks.

(in line with present costs, the ceiling is 20,000 forints per residential unit);

--in connecting new areas, priority must be given to communities and urban districts where the unit cost of connection is substantially below the above cost ceiling;

--it is also sensible to give priority to those connections which increase the utilization of the national pipeline network capacity without requiring the construction of new pipelines;

--establishment of pipeline gas delivery systems to be used only to supply gas to kitchens is uneconomic even in areas near gas fields; therefore, it is not sensible to supply such needs.

On this basis, we proposed about 300 to 320 million cubic meters of growth in natural gas consumption during the Sixth Five-Year Plan to connect new apartments to the natural gas network, gradually convert households using city gas and to supply communal user with natural gas.

Among consumer sectors outside of the household and communal sphere the rate of growth in industrial (mainly technological) use of natural gas will be above average. Natural gas use by this sector will increase in line with production targets. On the other hand, there is a definite need to limit growth of natural gas use by boiler plants. Except for a few justified individual cases where economic or environmental considerations clearly argue for natural gas, we will not permit the use of natural gas in large boiler plants where there is a realistic possibility of burning coal or heating oil.

Production and use of city gas will decline gradually in line with the expansion of natural gas use and conversions to natural gas. By the end of the Sixth Five-Year Plan the only provincial town with continued production of city gas will be Sopron.

Thus, the fundamental factors that define our energy policy for the Sixth Five-Year Plan will be the situation of our resources, the limited and increasingly expensive domestic production opportunities and import conditions. The composition of sources reflects the reduction of demand to real requirements and strong efforts toward energy conservation: the decline in the role of coal will continue to slow down (from 27.6 percent in 1980 to 24.6 percent); the share of hydrocarbons will decline substantially (from 63.5 percent to 59.1 percent); and nuclear energy will enter the scene as a new energy source.

The role of domestic sources will again increase, partially as a result of the use of fissionable materials; the role of imports will decline from 55.6 percent in 1980 to 53.0 percent.

The main tasks of energy policy for the first half of the 1980's can be summarized as follows:

--one of the chief aims of economic development during this period, and also one of the means to solve our trade balance problems, is to reduce the energy intensity of the economy;

--reduction of the growth rate of energy use (and, in particular, electrical energy use) relative to the average of the preceding period;

--energy rationalization, the sensible and economic use of energy plays a major role in reducing the growth rate in energy demand;

--more attention needs to be paid to the use of domestic energy sources in supplying the energy requirements of the national economy.

In supplying the demand for energy especial attention needs to be paid to the utilization of domestic coal reserves in a rational, economically justified manner supported by a suitable level of consumer demand. By increasing the utilization of coal deposits that can be mined economically we must ensure that there will be no decline in coal use during the Sixth Five-Year Plan and that coal use will increase during the Seventh Five-Year Plan.

Exploration for oil and natural gas must continue at a rapid pace; secondary and tertiary production techniques must be used more extensively in oil production. Deposits of natural gas with high inert gas content must be utilized.

--within limits dictated by technical and economic considerations and in line with the energy source potential of the national economy, the structure of consumption must be adjusted gradually to energy sources available under relatively favorable economic conditions. In accordance with changing international and domestic conditions, the share of oil and natural gas in the structure of energy use must be reduced. In particular, reduction of oil purchases from capitalist markets is a high priority task;

--from the standpoint of the security of energy supplies and supply risks during the Sixth Five-Year Plan it is very important to ensure that planned major energy-related installations (the machinery of the Paks Nuclear Power Plant during the first half of the plan period and the first units of the Bicske Thermal Power Plant at the end of the plan, as well as the new coal production capacities projected at various points) are available and ready for production at the dates planned;

--to ensure that energy policy goals are accomplished and the energy sectors develop as planned, there is a need to improve the machine industry foundations for reaching these goals.

The implementation of long range energy policy goals will be helped by planning, management, incentives and, when necessary, administrative measures. Energy policy goals will be reflected in short and medium range national economic plans, various steps taken by authorities, regulation of commerce, price policy and concrete price measures. Accomplishment of energy policy goals will be advanced by political and educational means, using various methods of agitation and propaganda, etc.

Fulfillment of these tasks, of course, depends not only on central authorities but also, first and foremost, on joint efforts by energy specialists. On this occasion, at this place, I emphatically ask once again for your help in this task.

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HUNGARY

FUNCTIONING OF MIXED ENTERPRISES EXAMINED

Budapest NEPSZABADSAG in Hungarian 23 Apr 80 p 10

[Article by Peter Lovasz: "Mixed Enterprises"]

[Text] Hungary's foreign trade turnover approached 600 billion forints last year. The purchase and marketing of such volume of goods demanded a high level of knowledge of the rules, or one might say tricks, of international business on the part of those who buy and sell abroad. For conducting trade and for obtaining the best official terms there is also a necessity, in both socialist and capitalist countries, for a foreign market organization that, in accordance with the characteristics of the particular country or the particular commodity, organizes relations between producers and customers as advantageously as possible. Long-term coordinated plans are to regulate the cooperation agreements developed with the socialist countries; the foreign market organization offers effective assistance in realizing these plans. In the developed and developing countries, however, due to their lack of coordinated plans, trade can be expanded to a large extent by using the foreign-market organizations and by adapting well-tested international business methods.

In the years since liberation, our foreign trade has amounted to between 30 and 40 million dollars all told. Commercial agents arranged our sales on capitalist markets on the basis of domestic orders for a fair commission, 1 or 2 percent of the transaction. We cannot give up the agent system even now; after all, the foreign trade organizations have over 100,000 different articles in over 10,000 different commodity groups on the market. Each of these requires a special knowledge of the market, the development of a network of relations with customers and suppliers, all of whom it would be almost impossible to keep tabs on from Budapest alone, while local agents are very suitable for this.

But this is only the first step. In time the expansion of trade will require the immediate presence of the Hungarian representative in the market and then we will establish foreign offices of the enterprises and mixed or occasionally exclusively Hungarian exterprises abroad. As Bruno Abos, department head at the Ministry of Foreign Trade, noted, we have almost

100 mixed enterprises abroad, the majority of them operating in the developed capitalist countries, but there are also 13 in developing countries. These enterprises of course operate in accordance with the local laws, pay income tax to the country in which they are located and thus outwardly do not differ from local enterprises of similar purpose. Their duties are not only to increase their capital, but--as is always spelled out in the founding documents--to help expand Hungarian exports, and thus to return an ever greater profit.

The mixed enterprises achieve this goal in the most diverse ways. The most common form is what is known as a commercial enterprise agency. For the most part these took over the role of the earlier agents together with their customers and played a large role especially in textiles and clothing, food, and some other areas. The Hungarian parent enterprise, of course, directly supervises the mixed enterprise agency, the risk of selection is reduced, relations already developed are retained, and they also share in the profits of the transactions.

Our partners are usually willing to participate in establishing a mixed enterprise since they expect this to result in better quality work from Hungarian suppliers and an expansion of trade, and in general they calculate correctly. Experience shows that mixed enterprises are a boost to business everywhere because sometimes deals are arranged via mixed enterprises that were previously handled by the parent enterprise in Budapest or its traveling representative.

But agency enterprises are only an intermediary stage. More effective are what are called self-procured funding mixed enterprises. For the most part these too are formed to carry out business operations, but there are some producing mixed enterprises, for instance Medimpex's Nigerian enterprise for manufacturing and packaging pharmaceuticals and Monimpex's floricultural enterprise on Cyprus. However, producing enterprises are only rarely established abroad, usually only if no other means of expanding exports presents itself.

Establishing mixed production enterprises is fairly capital-intensive, the risk is rather great, and the Hungarian authorities licensing the establishment of foreign mixed enterprises give their approval for such undertakings only when they are well justified.

Experience shows that establishing mixed enterprises stimulates trade, that a permanent presence in the market, the regular attention to the firm's relations with the help of the foreign partner promotes better delivery conditions and increased cooperation [deals], and cooperation with third markets. For example, last year--in addition to the parent-firm's [illegible]--12 enterprise delegates in this country, 136 representatives and agencies, as well as 4 mixed enterprises handled 55 billion forints worth of foreign trade for Chemolimpex. They put 500 articles on the market, and for successful deals the permanent presence of a Chemol representative is necessary in a growing number of countries. How much does it cost to maintain an effective market organization constituted of one's own representatives, I wondered.

"As unlikely as it may seem, it does not cost much," replied Istvan Bene, managing director. "One of our mixed enterprises in the FRG has already surpassed Inter-Chemol's total trade figure for last year, 2 billion forints; its initial capital stock was about .002 of this. The business standing of mixed enterprises in trade is determined not by the enterprise's capital stock, but by the industrial infrastructure behind the enterprise and most importantly, its network of relations. Perhaps a good example of this is Inter-Chemol in Frankfurt, a large concern in the FRG,--Metallgesellschaft is the founding partner--which has a solid international business reputation, extensive ties with other companies, and secondarily a respectable industrial base. What is most important is that this system of relations is boosting Hungarian exports."

Of course there is no general rule about in what country we should look for partners, or what firm would be a good partner. What is essential is to establish profitable mixed enterprises abroad with a carefully selected partner and with clearly defined joint business goals.

The success or lack thereof of the mixed enterprises depends to a decisive extent on the knowledge and preparation of the Hungarian specialists working in them. They should know the langauge of the country as well as their mother tongue. Regulations and customs are different in the FRG, and still different in the U.S. or in England. It will be necessary to adapt to other methods in the case of semi-finished products, raw materials and different ones for finished products. It is true that mixed enterprises are "mixed" for precisely the purpose of being in a position to obtain this knowledge and so that it is not necessary to spend a great deal on establishing new relations with the local market. But this in no way decrease the demands on our representatives abroad. It is expected that the mixed enterprise will increase Hungarian exports and this in turn will be included in the founding document. But this must be enforced in practice, which requires efficiency and thorough, painstaking drawing up [of the document].

Thus the improvement and expansion of the foreign market organization are under way, and if for the time being it is not keeping up with demands, this method is promising, and so it is worth analyzing our experiences and making better use of the possibilities to increase the competitiveness of Hungarian goods and to expand profitable exports.

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HUNGARY

POLYPROPYLENE PLANT OF TVK SHOWN IN OPERATION

Budapest MAGYAR KEMIKUSOK LAPJA in Hungarian No 12, Dec 79 pp 754-762

[Article by Andor Huszar and Laszlo Kiss, Tisza Chemical Combine, Leninvaros, entitled: "The Polypropylene Plant of the Tisza Chemical Combine Is Operational"]

[Text] Production at the Polypropylene Plant of the Tisza Chemical Combinate was started on September 30, 1978 - three months earlier than the previously approved deadline for going operational--and until the end of that year, the plant produced 7100 tons of granulate from its own polypropylene and an additional 1000 tons from imported materials.

From the 8100 tons of polypropylene produced above the planned amount, 5500 tons equivalent to an import of 3.5 million dollars reached the domestic consumers in 1978.

After the successful start-up, the task for 1979 was the production of 36,000 tons of polypropylene. With the exception of several small batches of special types, the domestic production made it unnecessary to acquire polypropylene from the dollar market, and on the basis of a yearly consumption of 20,000 tons, this improved the national economic balance by about $12 million. It should be mentioned that technical facilities are available for the domestic manufacture of all types which are or could be considered to be used in the country; however, the manufacture of small batches of special types is not economical. It is more expedient to acquire them within the framework of a product barter.

Exportation of the amount above and beyond the domestic requirements to capitalist markets could yield an income of $9-10 million. The raw material base of the production is ensured; the needed equipment and personnel are available and the possibilities of an economical export are realistic.

Preceding events.

The construction of the Olefin Plant with a capacity of 250 thousand tons/year at the TCC was made possible by the Hungarian-Soviet Olefin agreement, signed on September 15, 1970. The up-to-date technology and the large capacity allow to select economical operating capacities for the twin products (propylene, C_4 fraction, etc).

Continuous operation at the Olefin Plant was started on February 3, 1975, initiating at the same time, the transportation of ethylene by means of a pipeline to Kalus. In addition to ethylene, an amount of about 130,000 tons per year of propylene is also produced, which in addition to ensuring Soviet supplies, represents the raw-material basis of the polypropylene manufacture within the Central Petrochemical Development Program.

After reviewing the preliminary proposals concerning the acquisition of the Polypropylene Plant, it was decided to request detailed bids for a 40,000 tons/year capacity propylene plant - which could be enlarged to 80,000 tons - from the engineer-architect firms and enterprises with suitable references.

The investment project proposal of the Polypropylene Plant was prepared in 1974 and during the same year, visits were made to the recommended plants and the bids received were evaluated. We took into account the following technological and economic viewpoints (listing them without any consideration of the order of importance) in the evaluation and selection of the supplier.

- the selectivity of the catalyst system, respectively, the effect of the catalyst on the particle size of the powder;

- resolution of the polymerization process under special consideration of the manufacture of the copolymers;

- deactivation of the catalyst, the mode of purification and drying of the polypropylene powder, its operational safety and its effect on the quality of the product;

- the technological level of the product finishing (granulation, coloring, stability);

- possibility of processing or marketing the side products;

- structural solutions, development of the block systems;

- low material and energy demands;

- experience of the supplying company in the processing of the polypropylene and the availability of the licenses;

- comparison of the complete purchase of contracts and plans; price level;

- trade and collaboration policy considerations, etc.

The Council of Ministers, with the agreement of the State Planning Committee, approved the Polypropylene Plant project in February 1975, and on that basis, the Ministry of Heavy Industry gave its approval on May 30, 1975, with the following significant indicators:

Production capacity in 1980	40,000 tons per year of polypropylene
Annual marketing income in 1980	1115,2 forints
Maximum development costs of the project	4210 million forints
Maximum convertible exchange	$42,8 million

In the spring of 1975, after completing the pricing discussions, the following decision was reached:

- the plans of the technological plant components, the planning data and the most important installations will be supplied by the Lurgi Company (Frankfurt-Main) on the basis of a license of the American Hercules Company;

- the foreign trade tasks will be taken care of by CHEMOKOMPLEX;

- VEGYTERV will be the general architect engineer.

The foreign trade contract was signed with the Lurgi Company in May 1975 and it became effective in August 1975.

The history of, and lessons to be drawn from the project.

During the preparatory stage of the project, we outlined the tasks with the main construction firms and installers in a series of general contracts. At the beginning of 1976, the most important task, in addition to the start-up and carrying out of the construction work, consisted of the initiation of the planning and manufacture of the domestic installations and devices.

The year 1976 was characterized by the construction, and 1977 by the installation activities. In addition to the completion of the installation, the main goal for the first half of 1978 was the start-up of the production tests for the powder and granulate storage system, the granulation process, bagging, product selection and material handling.

using imported polypropylene powder for these activities.

May 29, 1978 was a significant date in the history of the project, because that is when we started the granulation of the imported polypropylene powder, successfully testing the operation of the whole plant.

In March 1976, the foreign-trade, planning, architect-engineer and other specialized enterprises - at the initiative of the Union of Workers in the Chemical Industry and of the Trade Union Committee of the TCC - signed a contract of socialist cooperation based on construction and installation deadlines which would allow to start operating the plant earlier than originally planned. The young workers of the Communist Youth Association, who collaborated with each other in various areas, signed a protective contract under the patronage of the Communist Youth Association.

The following larger enterprises and suppliers participated in the realization of the project:

State Construction Enterprise No. 31,
Enterprise for Public Works and Structural Engineering,
Machine Plant "April 4",
Budapest Machine Plant for the Chemical Industry,
Piping Installation Enterprise,
Enterprise for the Mechanization of Construction,
Ganz-Mavag Locomotive and Machine Plant,
Ganz Electrical Works,
Plant and Machine Installation Enterprise,
Construction and Insulation Enterprise for Heat Technology,
National Technological Industrial Enterprise,
Construction and Installation Enterprise for Chemical Works,
Electric Automating Institute,
Planning and Installation Enterprise for Electric Power Plant, TCC.

The following data will illustrate the tecnical content of the project:

- in view of the nature of the technology, the two main building contractors had to carry out works exceeding 400,000,000 forints in value, within which the largest unit (the processing plant building) amounted to 33,000 lm^3, consisting in part of a monolithic reinforced-concrete structure;

- steel structures were used to place the open-air installations; their largest dimension approached 30,000 lm^3;

- the equipment list included about a thousand numbered units of machines and devices;

- the weight of the materials used for piping exceeded 900 tons;

- the number of electrical distributors of the Polypropylene Plant amounted to 580; their total nominal rating was 20 MW;

- 2000 measuring and control units were used for continuous measurement and automatic control.

Considering the size and the complex character of the task, the time made available for installation was very short. According to the approved deadlines, the production unit was to be completed in 32 months. The period from the beginning of the planning until going on stream was 42 months.

These periods are the same as the 24-30 months allowed for construction, respectively the 3-42 months for complete realization in western european petrochemical plants, which are considered exceptionally good.

The following two concrete data references may be used for comparison. At Varennes, in Canada, the ground was broken in the spring of 1973 for a 70,000-ton per year capacity polypropylene plant, based on the Hercules process. The plant, built at an overall expenditure of 60 million, started operation in June 1977. Within that time, the construction and installation activities required four years (according to the operators of the installation, work was stopped for 8 months because of the Olympic Games and for other reasons).

- A 100 thousand ton/year capacity plant, using the Hercules process started production at Paal in Belgium at the beginning of 1977. Construction and installation works for this plant required 2.5 years, i.e., the same time as the period approved for the Polypropylene Plant of TVK.

In comparison with the domestic experience, the Polypropylene Plant project was carried out at a very fast rate. This required novel, unaccustomed administrative handling in several fields of the project work, and in parallel with it, the efficient collaboration of the sponsoring agencies and enterprises which participated in the work.

We used dynamic programming, taking the characteristics of the domestic project environment into consideration. Its principle was: a decision, an administrative instruction or a partial deadline set as a goal is considered to be good at a given time if it takes into account the actual situation and if it can be considered as optimum as far as the future is concerned.

The dynamic programming and the computerized network planning made it possible to administer and control the project process satisfactorily.

During the execution, we encountered some of the general problems experienced in the domestic project practice. We tried to take care of them, by allowing the TCC to contract preparatory and material procurement tasks from the executing enterprises, whenever found necessary and, making use of the experts of TCC, especially in their final completion efforts, to beat the deadlines set for the task. A special problem arose from the fact that while the polypropylene plant project was carried out, several major projects were in progress in the Borsord area, and in certain special trades (scaffolding, painting, insulation, sheet metal work and piping) there was a short supply, threatening the timely completion of the project by the deadline.

In order to resolve these difficulties, the TCC provided significant labor force from its own staff, using in certain special areas, a small number of foreign (Polish) construction workers. In parallel with the economical preparation of the plant and maintenance systems, availability of a well trained operating personnel attracted great attention. Experienced workers were transferred to the Polypropylene Plant from the existing plants of TCC. While this personnel participated actively in the project work, it was trained to carry out operational tasks also. Within the framework of this activity, 21 operational specialists received practical training in foreign plants based on a similar technology.

Thanks to the careful preparation, the well organized project activity, the excellent cooperation of the agencies and enterprises participating in the project, a sum of about 20 million forints was saved from the budgeted expenditure.

The technological description of the Polypropylene Plant

From the technical viewpoint, the plant may be divided into two operating sections:

1. Portion of the plant where the polypropylene powder is manufactured, containing the technological units, where the catalyst is fabricated and the polymerization is carried out, together with the powder-drying, and the solvent-regenerating components, and the supplementary installations directly related to the manufacture of the powder: cooling systems, boiler, flare, technological waste water purification and cooling water recirculation systems.

2. Portion of the plant for processing the polypropylene powder, which includes the components used for storage of the powder, the stabilizing

units, the units for the preparation of natural, colored and combined granulates, storing and packaging units and warehouse for granulates.

The plant for the manufacture of the polypropylene powder (Figure 1).

The polypropylene powder is manufactured from liquid propylene at a low pressure in a hexane solvent medium, in the presence of a titanium trichloride catalyst and diethyl-aluminum monochloride activator, using hydrogen to adjust the molecular weight.

The catalyst complex is prepared batchwise, immediately before use. Titanium tetrachloride serves as starting material; it is reduced with ethyl-aluminum sesquichloride to trichloride in hexane as solvent. In order to complete the reaction, the catalyst batch is subjected to heat treatment, which involves heating while stirring, cooling, then repeated sedimentation, decantation and renewed suspension in hexane. The hexane is recovered in the hexane regenerating portion of the plant from the so-called "mother liquor" formed during the decantation processes.

The prepared catalyst is added continuously to the polymerizing unit, which consists of five, serially connected, 60 m^3 reactors provided with blade stirrers covered with acid-resistant plates, a cooling mantle, respectively, an external heat exchanger.

The liquid propylene, hexane, catalyst, activator and the hydrogen required to adjust the molecular weight of the polymer, are introduced continuously into the first reactor of the pressurized cascade.

If copolymers are manufactured, ethylene may be added into reactors No. 4 and 5. The operating temperature of the reactors is kept at around 60°C and the pressure between 9 and 10 bar.

The generated heat is removed through the reactor mantle, the external cooler, or through cooling cartridges.

Following the polymerization, hexane is added to the hexane-containing polymer sludge leaving the fifth reactor in order to reduce the concentration of solids; at the same time, the catalyst complex in the reaction mixture is decomposed by methanol. After lowering the pressure (the released, unreacted propylene and the inert gases are sent to the flare) the residual catalyst and methanol are removed with water from the mixture in a continuous, counter-current, multistage extractor. The water-containing methanol, which leaves the system at the bott[illegible] [illegible] extractor, is sent through a filter to the methanol regeneratin[illegible] [illegible], while the polymer-containing hexane phase leaving at the top, is se[illegible] to the filter-centrifuge unit. The centrifuge serves as the first stage of the powder-drying system, and it is followed by the fast dryer, operated with hot nitrogen and two fluidized bed dryers. The maximum hexane content of the powder leaving the polymerizing unit is 0.1% by weight.

Within the closed nitrogen circuit of the individual drying stages, the nitrogen is washed with hexane in the scrubbing columns, and in order to reach the desired dewpoint, it is cooled and after filtration, it is heated in a steam-heated heat exchanger.

The methanol and the hexane are recovered in the solvent-regenerating portion of the plant.

The methanol is stripped from the stream of materials by leaving the extractor in the distillation column with live steam. As a result of this operation, pure methanol is obtained as overhead product, and methanol free water as bottom product, sending it to the biological purifier after pretreatment in the technological waste purifier.

It is of fundamental importance in the regeneration of hexane, that the atactic polypropylene, generated during the polymerization and present in the hexane in a dissolved state, be removed from the hexane. The main material stream of hexane comes from the centrifuge; it is neutralized with alkali and the alkali is then washed with water. The neutralized and scrubbed hexane stream is heated in the heat exchanger, then sent to the film evaporator. Here, the hexane vapors are separated from the atactic polypropylene, which is poured into containers or barrels in the molten form. The hexane vapors are scrubbed, condensed and dehydrated. The pure dry hexane is reused.

The plant for processing the polypropylene powder.

The end product of the polypropylene powder manufacturing plant is the dried, unstabilized polypropylene powder. The processing plant uses this material for preparing raw materials suitable for further processing in the plastics industry, packaging them as the trade or consumer requires it.

Because of the great variety of the consumer's requirements, the processing plant contains eight independent production lines, which are connected to units where the granulate is stored, bagged, selected, contracted or the bulk granulate or powder is directly transferred to trucks or railroad container cars.

In the processing plant, the natural polypropylene powder is mixed according to the prescription with stabilizers, additives, and/or pigments and/or fillers, and after homogenization, the thus-obtained mixture is granulated in the extruder.

The propylene, nitrogen and hydrogen required for the operation of the processing installations of the Polypropylene Plant are supplied by the Olefine Plant or the Synthetic Nitrogen Fertilizer Plant of TVK. Air for the pneumatic instruments, compressed air, intermediate-pressure steam and electrical energy supply are organically connected to the TVK's previously established systems, and thus, in principle, all that was needed was to enlarge the central supply system.

The range of products of the polypropylene plant is exceptionally wide, and to satisfy the consumer's requirements, it covers the 0.4-20 yield index range. Therefore, all types of products, ranging from highly shatter-proof copolymers to the high yield-point soft products can be manufactured (see Table 1).

Experience gained during previous operational tasks.

The experience gained during the period since the start-up of the operation confirmed that the technological process was correctly selected. The selectivity of the catalyst preparation process was found to be excellent. As a result of this, the polypropylene powder has a uniform particle size distribution, the polymerization is stable, the molecular weight distribution covers a relatively narrow range, and the amount of the atactic side products is low (1-5%). After deactivation, the natural polypropylene powder does not contain any catalyst residues.

The properties of the products may be easily adjusted, and the quality of the final products agree with those of the Profax brands well known on the world market.

Installation of technological component units serving the same purpose into a single block system makes it possible to supervise and control the plant conveniently with a small staff.

The direct admixture of the various additives and pigments to the natural polypropylene powder, consuming less energy yielding a more homogeneous product with a more uniform quality, and permitting a more economical manufacture, than the conventional methods which require double melting and granulation, is characteristic for the modern coloring-granulating technological process.

The production experience revealed that - in the case of large batches which can be manufactured economically - the material and energy characteristics, are the same or are more favorable than those guaranteed in foreign trade contracts.

The start-up of polypropylene production within the country resulted in a marked increase of the domestic consumption.

A twofold task must be carried out in this area:

- Experiments must be made in cooperation with the consumers about the replacement of the previously imported types. In close connection with this, customer services and opportunities for technical consultation must be provided.
- Prescriptions must be developed for special types (such as low-flammability polypropylene, polypropylene to replace high-density polyethylene, etc) which are in demand within the country, but are not included in the product range of the licenses.

Currently, these tasks represent a significant portion of our product-development activity.

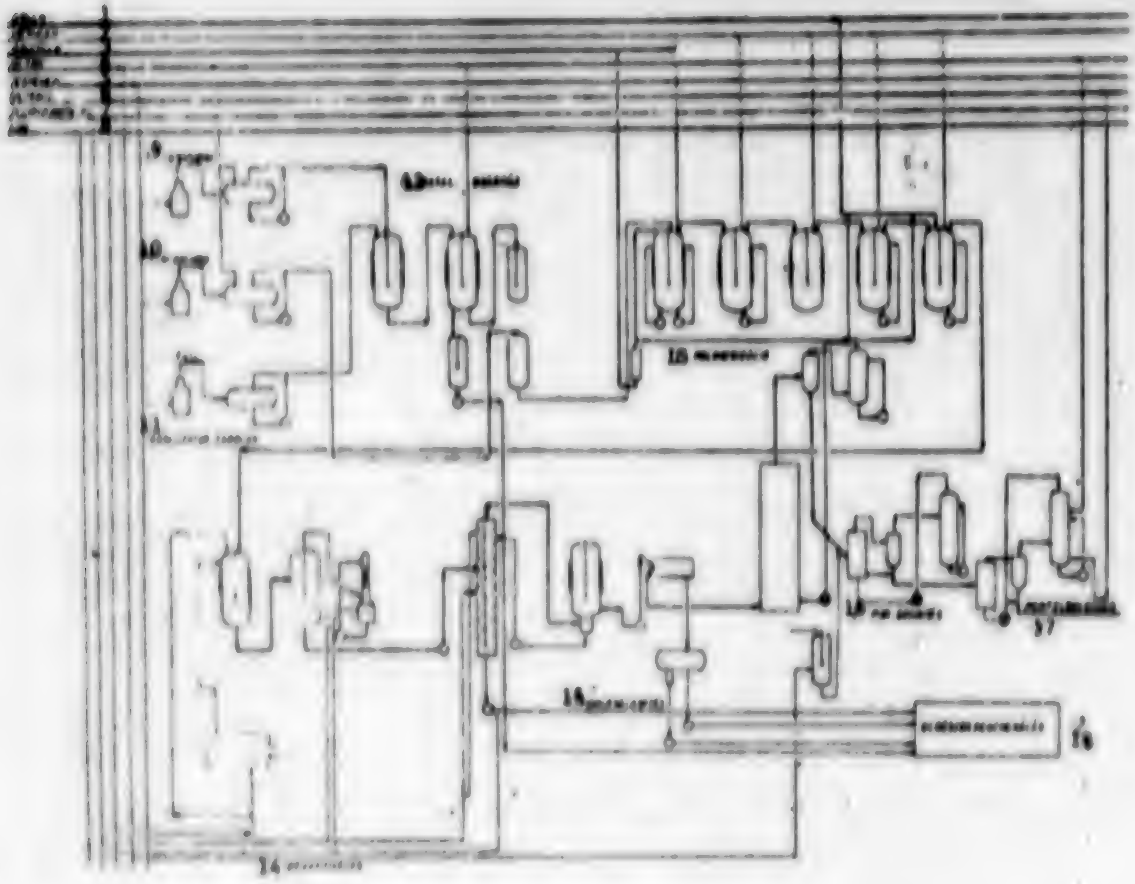
In addition to the product development, we are also working on the development of polypropylene processing, for which our broad experience during the recent years in the field of raw materials supply, engineering culture, project administration and raw material processing gained, provides a suitable background.

We anticipate a continued significant increase in the domestic plastics consumption, and at the same time, a favorable growth of the export potential of plastics. In view of this, the increase of the productive capacity of the Polypropylene Plant which started to operate in 1978 to 80,000 tons per year, should be considered as a development opportunity which can be realized rapidly and economically.

Summary

The article describes the Polypropylene Plant of the recently started Tisza Chemical Combinate, which is based on the process developed by the Hercules Company and was installed by the Lurgi Kohle und Mineralöltechnik, GmbH. The earlier stages of the investment project, and the main events of the installation, are briefly outlined. The technological process of the Polypropylene Plant, the engineering specifications of the main product types, and the current development activities of the production program are summarized, together with guidelines for future development.

Diagram 1. Flow diagram of the plant for the manufacture of polypropylene powder



1. Ethylene
2. Hydrogen
3. Propylene
4. Hexane
5. Nitrogen
6. Methanol
7. Process water
8. Alkali
9. "S" activator
10. "M" activator
11. Catalyst storage
12. Preparation of catalyst
13. Polymerization
14. Deactivation
15. Separation of the powder
16. Drying of the powder
17. Processing of the powder
18. Regeneration of the solvent.

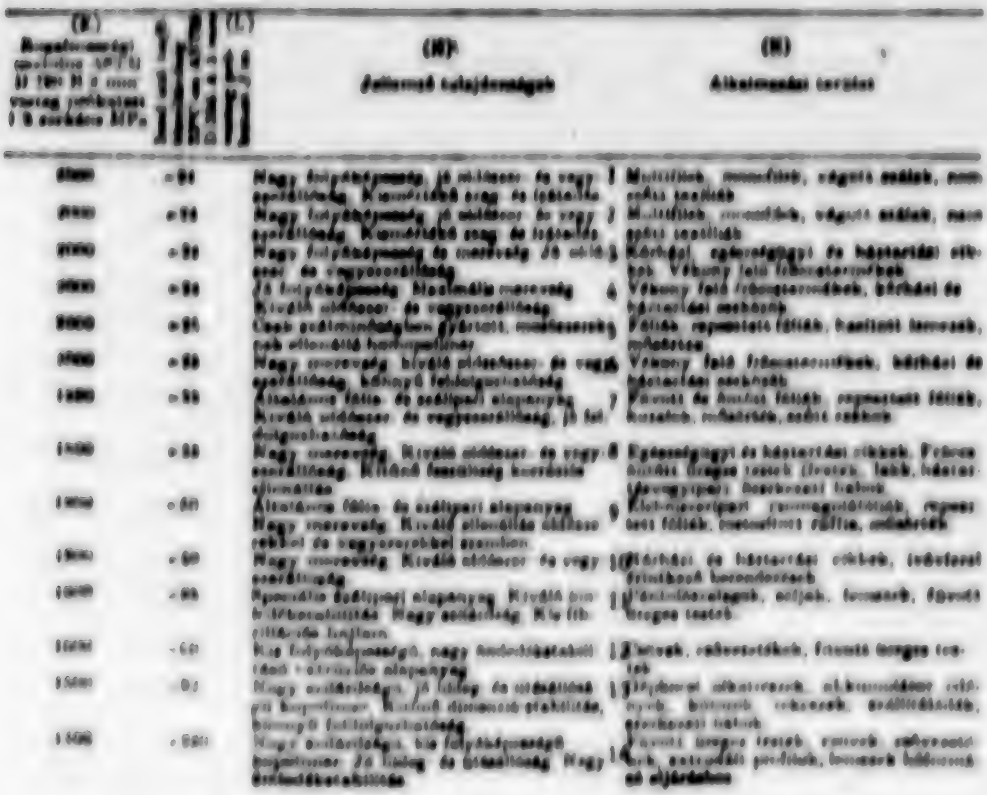
Table 1. The main characteristics of the polypropylene products manufactured by the Tisza Chemical Combine

(A) Típus	(B) [illegible] ASTM D 1238 [illegible] g/10 min Névleges (C)	(B) Tartomány (D)	(E) [illegible] ASTM D 792 [illegible] g/cm³	(F) [illegible] ASTM D 638 [illegible] MPa	(G) [illegible] %	(I) [illegible] ASTM D 648 [illegible] 460 kPa °C	(I) 1820 kPa °C	(J) [illegible] ASTM D 785 A R skála
[illegible] F	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] F	[illegible]	8–16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103
[illegible]	[illegible]	8–16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103
[illegible]	10	7–13	[illegible]	[illegible]	10	[illegible]	[illegible]	100
[illegible] F	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	101
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	101
[illegible] F	4	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	100
[illegible]	4	[illegible]	[illegible]	[illegible]	11	[illegible]	[illegible]	100
[illegible] F	[illegible]	1–3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1–3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] F	[illegible]	0,5–1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	87	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Key: (A) - type; (B) - Yield index No ASTM D 1238 230°C/2,16 kg g/10 min (C) - nominal; (D) - range; (E) - Density, ASTM D 792 23°C g/cm²; (F) - tensile strength; (G) - elongation at yield limit; (H) - ASTM D 638 type 1 test specimen, 50 mm/min. (I) - temperature causing bending under load ASTM D 641, 3 mm thick test specimen; (J) - Rockwell hardness, ASTM D 785 A R scale; (K) - Modulus of elasticity, D 790 B 3 mm test specimen, 1% secant MPa; (L) - Izod impact bending strength at 23°C ASTM D 256S, 3 mm thick test specimen, J/m; (M) - characteristic properties; (N) - Field of application.

Under Column M

1. Considerable yield, good resistance against solvents and chemicals. Limited taste and smell transfer.
2. Considerable yield, good resistance against solvents and chemicals. Limited taste and smell transfer.
3. Great yield and rigidity. Good resistance against solvents and chemicals.



Under Column M (continued)

4. Good yield. Maximum rigidity. Excellent resistance against solvents and chemicals.
5. Homopolymer manufactured only in fiber quality, with resistance against detergents.
6. Great rigidity, excellent resistance against solvents and chemicals, ease of processing.
7. Overall basic material for foils and fibers. Excellent resistance against solvents and chemicals. Ease of processing.
8. High rigidity. Excellent resistance against solvents and chemicals. Outstanding resistance against stress and corrosion.
9. Basic ground material for foils and fibers. High rigidity. Excellent resistance against solvents and chemicals.
10. Great rigidity. Excellent resistance against solvents and chemicals.
11. Special basic material for the fiber industry. Excellent melting resistance. Great strength. Slight tendency toward fibrilation.

Key to Table 1 (continued)

Under Column M (continued)

12. Basic material for extrusion, with low yield and high stability against melting.
13. High-strength copolymer with great cold and impact resistance. Excellent dimensional stability, ease of processing.
14. High-strength, low-yield copolymer. Good heat and impact resistance. Great stability against melting.

Under Column N

1. Multifibers, monofibers, cut fibers, nonwoven textile materials.
2. Multifibers, monofibers, cut fibers, nonwoven textile materials.
3. Hospital, hygienic, and household articles. Thin-walled injection-molded products.
4. Thin-walled injection-molded products - hospital and household articles.
5. Foils, burst foils, split plates, synthetic bristles.
6. Thin-walled injection molded products, hospital and household tools.
7. Blown and cast foils, split foils, fibers. Synthetic bristles; woven bags.
8. Hygenic and household articles. Injection-molded hollow containers (for paints, lacquers, household chemicals). Structural foams.
9. Wrapping foils for the food industry, burst foils, fibrous raffia, synthetic bristles.
10. Hospital and household articles, equipment in contact with drinking water.
11. Bands, belts, sheets, blown hollow bodies.
12. Pipes, piping, blown hollow bodies.
13. Motor-vehicle components, storage battery containers, furnitures, boxes, transportation containers, structural foams.
14. Blown hollow bodies, pipes, ducts, extruded profiles, sheets for heat-forming processes.

PHOTO CAPTIONS

1. p 754 General view of the polypropylene plant, with storage silos.

2. p 754 General view of the polypropylene plant.

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4. p 755 Drying and storage of the polypropylene powder.

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ROMANIA

EFFORTS TO IMPROVE AGRICULTURAL PRODUCTION

Bucharest REVISTA ECONOMICA in Romanian No 14, 4 Apr 80, and
No 16, 18 Apr 80

/Article by Prof Dr O. Parpala/

/4 Apr 80, pp 9, 10/

/Text/ The year 1980 marks the beginning of an essentially new stage in the development of the agricultural production cooperatives in this country, the transition to a superior quality in their economic activity, as a result of the introduction of the indicator "profit."

The decision of the Executive Political Committee of the Central Committee of the Romanian Communist Party on the enforcement -- as from 1 January 1980 -- of the law on profits in agricultural production cooperatives emphasizes the imperative need for these units to organize their activity in such a manner as to fully meet their expenses from incomes, to obtain profits for the purpose of ensuring the resources for their own expansion and, at the same time, to be instrumental in establishing the state centralized fund.

Profit, Sole Source of Economic Growth From Local Resources

The establishment of the indicator "profit" for agricultural production cooperatives is a basic component of the program endorsed by the party leadership on the formulation and application of the new economic mechanism based on self-direction and self-management in all economic branches and in all economic units. Moreover, for agricultural cooperatives, the introduction of this indicator has a quite special significance because it involves profound qualitative changes in the entire economic-organizational and managerial system of these units.

So far also, to a certain extent, the agricultural production cooperatives have unfolded their economic activity based on the principles of self-management and self-financing, with the source of the latter deriving from the net output. This output in the first place provided the commonly-owned funds -- with priority to the fund for economic development -- and payment for work proceeded after these funds were constituted. This resulted in great differences in the levels of payment from one cooperative to another. Therefore, it became necessary to introduce guaranteed payment of work (which thus acquires priority) in order to ensure greater material incentives for cooperative farmers in boosting production, labor productivity, and the profitability of production. In this context, profit becomes the sole source of economic development from local resources in each agricultural cooperative. The new line by no means impacts the primordial character of the constant increase in net output, as a chief source of growth of the commonly-owned property and of improvement in the cooperative farmers' standard of living. Because, if net output is the newly created value (and is determined as the difference between overall output and the related materials expenditures), profit is a significant part of the newly created value (and synthetically represents the results of the economic activity). Profit is constituted after the following elements have been assigned from net output: payment for work and the input into the fund for pensions and social security in light of the production and incomes obtained by the cooperatives, the tax on lands, on the payment fund and on the incomes from industrial activities, the insurance premiums, the allowance fund, the expenses for personnel training and field practice and other expenditures provided for by the law.

The role of profit in self-financing for local economic development in each agricultural cooperative is attested by its own allocation, in the first place, for the fund for economic development and the fund for circulating assets. Follows the formation of the other funds: the fund for social-cultural and sports facilities; the reserve fund for production and payment for work; the intercooperative fund for mutual assistance and consolidation; the fund for profit-sharing of cooperative farmers and the other working people, the fund for profit-sharing for the commonly-owned assets based on the cooperative farmers' cash deposits. In light of the essential role of profit in the formation and growth of the fund for economic development (which also includes the portions for amortisation of fixed assets and other sources), all agricultural cooperatives are required to conduct a profitable activity which should enable them every year to allocate from the profit obtained appropriate sums to the fund for economic development.

Hence, the amount, destination, and utilisation of these funds, under the terms which will be specified in the by-laws of agricultural cooperatives, are not of minor significance. Certainly, the fund for economic development will have priority not only in terms of order but also in terms of the size of its allocation from the profits obtained.

Under the new conditions, each cooperative is required to obtain profits in every production branch in which it is active, in amounts which ensure self-reliant development and accelerated intensification.

Profitability of Plant and Animal Production

The introduction of the indicator "profit" in cooperatives has a real basis, which has been confirmed by the creditable results obtained by most of these units for most agricultural products. The consistent implementation of the policy of intensive and multilateral expansion of agricultural production, on the basis of modern technology, and the continuous upgrading of the organizational framework, of the forms and methods of self-management and self-financing have permitted the greater efficiency of the production costs. Positive factors included the gradual introduction and the dissemination of the evidence and calculation of production costs for all products in all cooperatives. This has required better management of the production funds and the confrontation of expenses with the profits obtained, with highlighting, as the case may be, the profit or the loss for one or another product and for the overall cooperative.

In less than 15 years from the completion of cooperativization, the cooperative sector of our agriculture has strengthened its economic-financial situation. It has become a profitable sector (we are making this statement in light of the economic-financial results obtained by agricultural cooperatives in 1978, when -- for all plant and animal sectors -- the profitability summing-up was positive).

We must emphasize the profitability level of the grain output -- the chief agricultural production branch, which has a great impact on all the other production branches in agricultural cooperatives: each 100 lei of production costs yielded a profit of over 41 lei in corn cultivation and almost 35 lei in wheat cultivation. These are the crops that take up almost three-fifths of the arable land of agricultural cooperatives. For winter barley crops the profitability rate is almost 50 percent and this is an additional argument for expanding this feed grain which is very valuable.

For soya bean crops, each 100 lei spent yields a profit of 18 lei.

Very instrumental in boosting the profitability of output in agricultural cooperatives are the industrial crops and specifically those to which, under the next five-year plan, priority has been given in the group structure of these crops. For instance, sunflower -- the chief industrial crop in agricultural cooperatives -- is by far one of the most profitable crops, with a profitability rate of almost 61 percent. Sugar beet, with all the difficulties involved in the production process, is a medium efficiency crop (profitability rate is 19 percent) while for the traditional hemp crop, each 2 lei spent yield 1 leu profit.

The output of potatoes and vegetables -- which requires a large amount of labor -- is among the efficient branches in the cooperatives, with a profitability rate which, depending on the crop, reaches up to 40 percent.

Viticulture (with a profitability rate of about 25 percent) is surpassed by pomiculture, whose profitability potential is high; the profitability rate does not go down below 25 percent for any pomicultural crop and reaches 75 percent for peaches and plums.

Very profitable are natural pastures and meadows: each 1 leu spent yields 1 leu profit (for hayfields) and more than 2 lei (for pastureland). This is a justification, also in terms of efficiency, for placing greater emphasis on making best use of this output resource.

In livestock production, fowl-breeding for eggs, the fattening of junior cattle on the basis of industrial techniques, the fattening of young sheep and of adult sheep are totally profitable activities, with a profitability rate of up to 12 percent. Even for cow's milk, the profitability rate in foremost units (which provide more than 40 percent of the milk output) is 16 percent; for the fine and semifine wool output from consolidated units (which concentrate almost 60 percent of the output) the profitability rate is 21 percent; for pork the foremost cooperatives (which provide almost 50 percent of the output) attain a profitability rate of 13 percent.

Examples abound but all lead to one overall conclusion: the profitability level attained for all the agricultural production in cooperatives justifies the switch to introducing the indicator "profit" in the economic-financial activity of these units.

Furthermore, the scientific and principled analysis of the results obtained so far by the cooperativised sector in making production more profitable spotlights the existence of large reserves for increasing the profits and efficiency in this sector.

In the first place, one can note the maintenance of an evident discrepancy between the profitability levels in plant output and in animal output: while almost all vegetable products (even those of minor importance) are profitable (in most cases with very high profitability rates), for animal products, the profitability rate is lower and some of them, at this point, are unprofitable.

In the second place, even for the chief plant and animal products with a high profitability rate in the cooperativised sector, many of the grower units, namely the animal-raising units, still are conducting an activity which is unprofitable for one or another product. For example, in the area of cultivation of corn for kernels, for more than a quarter of the total number of cooperatives (growers of about one-fifth of the area but which only provide 8 percent of the output) the activity conducted is not satisfactory. Moreover, sunflower growing in a number of cooperatives (which, while taking up 10 percent of the cultivated area only provide 5.5 percent of the output) does not yield satisfactory economic-financial results.

However, the implementation of the provisions under the law on profits involves making profitable all products and all agricultural production cooperatives.

Proceeding from this actual situation, in conformance with the decisions and directives of the party, of its secretary general, it is necessary to rapidly ensure that the activity of all agricultural cooperatives becomes more profitable. This must be based on the formulation and implementation of special programs for upgrading the economic activity in each agricultural cooperative unit.

The reserves and avenues for making the activity of all agricultural cooperatives more profitable will be the topics of a future article.

/10 April 80, pp 6-8/

/Text/ Higher Yields per Hectare and Animal

The analysis of the economic-financial activity of agricultural cooperatives in this country indicates that greater yields per hectare and per animal are the main factors of rapidly making more profitable the activity in this major sector of agriculture. We can state with certainty that at this stage, the question of making all units and all products in agriculture more profitable is primarily a technical-economic matter. Not necessarily the production costs per hectare and animal are too high (though there still are reserves to minimize them) but the yields obtained are too low as compared to the actual potentialities and this results in the efficiency of costs in the units involved being below expectations. For many branches and crops in agriculture the cost of production per hectare or per animal is lower or at most identical in unprofitable cooperatives compared to profitable ones. For instance, if for the wheat crop, the per hectare production cost in unprofitable units is more than 300 lei higher than that in profitable units, in exchange for corn (kernels) it is almost identical (with a difference of 20 lei in favor of the unprofitable units). In the cooperatives where sunflower growing is not profitable, the costs per hectare are almost 200 lei lower than in the cooperatives which obtain a high profitability rate. For winter potatoes, the difference in per hectare costs reaches 1,200 lei to the "advantage" of unprofitable cooperatives. Even for milk production, which involves the most difficult problems of making all the output more profitable, the costs per foddered cow are approximately equal in profitable and unprofitable cooperatives.

But this approach to comprehending the "savings" of production costs in unprofitable cooperatives, which is contrary to the principles of sensible financial organization, results in low yields and this generates high production costs, whose level cannot be met by the marketing price.

For instance, for wheat output, the per hectare yield level in unprofitable units is more than 40 percent lower than in profitable units. If we take into consideration the fact that, on an overall scale, the wheat output involves a high profitability rate (for a countrywide average per hectare yield of 2,600 kg), it follows that the 300 lei savings in production costs diminishes the per hectare harvest by more than 1 ton and causes loss of about 1,000 lei per hectare.

For the leading crop of our agriculture -- corn (kernels) -- the per hectare yield also is 40 percent lower in unprofitable units versus profitable units. But even for a yield smaller than 3,000 kg per hectare, under current conditions, corn (kernels) is a crop that provides significant incomes (profitability rate: 50 percent). In light of the difference in production costs per hectare, in this case it was not the size of costs that was decisive for the profitability level but their structure, to the effect that the profitable units paid more attention to maintenance and timely harvesting and to application of larger amounts of chemical fertilizer. The difference in per hectare yield generated a rise of more that 80 percent in the production costs in unprofitable units, which, of course, were no longer able to meet production costs from the incomes obtained.

For cow's milk output also, the agricultural cooperatives' experience so far shows that it is possible to conduct an activity with an acceptable profitability level even at an yield lower than 2,000 l of milk per foddered cow. In unprofitable units the yield is only about 25 percent lower than that in profitable units. We may conclude that the determining factor in making the activity of all agricultural cooperatives more profitable involves raising the yield per hectare or per animal up to a level that permits the efficient use of costs (consumption rates) of production, ensuring the meeting and exceeding of these costs from the incomes obtained. Attaining the yields per hectare or per animal specified (for 1985) in the Directives of the 12th Congress of the Romanian Communist Party will permit to obtain large profits for each agricultural branch and crop. For this it is necessary to accelerate the process of intensive production, ensuring a level of production costs per hectare and per animal which involves efficient use.

But the amount of yield -- as a factor of profitability -- depends not only on the level but also on the structure of production costs, whose optimalization essentially hinges on the ability of the management body to sensibly handle these costs.

Concentration of Branches and Crops

The concentration of branches and crops, against the backdrop of agricultural zoning, is a component of the concept of modernization of agriculture and an important factor in achieving a new quality in the economic activity of agricultural cooperatives. It exerts a dual influence on production and financial results in agricultural cooperatives. In the first place, by better using the local pedoclimatic and economic conditions which are favorable to various branches and crops it permits to obtain a higher yield without extra costs, minimizing production costs and increasing profit. In the second place, the structuring of some stronger production branches permits to make fuller use of the advantages of large-scale production in agriculture, namely better utilization of the means of production and work force, by unchallenged use of modern technique and technology, with all their components. In this context it even is possible to minimize per hectare production costs and this, tied in with greater yield, generates an even higher rise in profit (per unit of product and per hectare).

Better territorial location and reduction in the number of cooperatives that operate in identical production branches have resulted in a larger average area or number of animals per cooperative. For instance, out of the total number of cooperatives, only 30-50 percent grow sunflower or sugar beet or potatoes, only two-thirds raise hogs and only about one-tenth breed fowls.

This policy of concentration, of creating powerful production branches in the units that are situated in the most favorable locations yields good economic results. For example, in the group of profitable cooperatives, the average area is larger: 43.5 percent for wheat, 56.5 percent for corn (kernels), 67.4 percent for sunflower, 26.9 percent for winter potatoes, and so on, versus the area set aside for the same crops in the group of unprofitable cooperatives. The fact that for most agricultural crops the profitable units belong to the group which cultivate larger areas attests the impact of crop concentration on the profitability of production.

This also is confirmed by the combined grouping of corn (kernels) growing cooperatives according to the area cultivated and the size of the per-hectare yield. For example, out of all units that have between 150 and 200 hectares under corn (kernels), only 3 percent obtain yields of more than 5,000 kg/ha, while in the group of units that cultivate 1,000 hectares, the proportion of cooperatives that obtain more than 5,000 kg/ha reaches 27 percent. Or, conversely: out of the total number of cooperatives that obtain yields between 5,000-6,000 kg corn (kernels) per hectare, only about 7 percent belong to the category of those that cultivate under 200 ha, and two-thirds, more than 700 ha.

The same law is confirmed in the case of raising milch cows: out of the total number of units that obtain an average output of more than 2,500 liters of milk per foddered cow, only 14 percent belong to the group of units which raise less than 100 cows, while about two-thirds of the number of units in this category of yield each raise at least 300 cows.

All this bears out not only the benefits of concentration in production but also other facets (such as maintenance of some small-size branches) which must be taken into consideration in this context. For instance, in spite of all the successes obtained in this area so far, the tendency to "universalism" in production and, implicitly, to territorial fragmentation of branches and crops has not been eliminated. Out of the total number of agricultural production cooperatives, only 1.3 percent do not grow wheat, only 3.3 percent do not grow corn and only 2.6 percent do not raise cattle. About one-third of the number of wheat-growing cooperatives grow this crop on less than 300 ha; for corn (kernels), the proportion of these units is about one-third; between 20 and 25 percent of the number of hog-breeding cooperatives have stocks which number less than 15 head. Therefore, in a number of agricultural cooperatives, whose proportion cannot be ignored, the yields obtained are below potentialities: under 1,500 kg/ha in about 17 percent of wheat-growing cooperatives and in over one-fourth of those that grow corn (kernels); under 5,000 kg/ha in almost one-fifth of potato-growing cooperatives; under 1,000 kg grapes per hectare in more than one-fifth of the grape-growing units.

The new organizational framework achieved as a result of the creation of unified state and cooperative agroindustrial councils also is perfectly appropriate for stepping up the concentration of production. The unified structuring of the territory, by the realization of sensible specialized cropping systems and a better location of crops on large fields in rotation will capitalize on the production potential of all lands. Moreover, by the more sensible location of breeding for the various species of animals and investment projects, in agreement with the conditions and potentialities existing in each unit, and by expanding association in animal husbandry, prospects are created for the concentration of livestock in optimal proportions for the conditions given.

Greater Labor Productivity

The outstanding impact of greater labor productivity on the profitability of production in agricultural cooperatives derives from the fact that -- under the conditions in agriculture where we witness a gradual but firm reduction in the work force -- the rise in labor productivity is an essential avenue to higher agricultural output. It is not accidental that the level attained in the development of the productive force in agricultural work is expressed -- for the overall agriculture -- by the number of inhabitants for whom a person active in the agricultural sector produces the food needed.

The importance of greater labor productivity for all the economic activity in agricultural production cooperatives grows in the context of the application of the new economic mechanism, under which the indicator "profit" is a decisive factor. This necessitates a much more rapid rate of growth in labor productivity, a rate which should exceed the rate of growth in payment for work, so that each cooperative may obtain profits from each branch and crop, hence for its overall economic activity.

The economic activity of agricultural cooperatives in this country attests the close dependence of profitability on the level of labor productivity. For instance, in the agricultural cooperatives with profitable activities, versus those with unprofitable activities in the area involved, the level of labor productivity, expressed by the amount of principal product per conventional norm, is higher: by about one-third for sugar beet and cow's milk, by about two-thirds for corn (kernels) and potato, and by 160-170 percent for wheat and sunflower.

If we take as the lower limit of profitability the obtaining of an overall production of minimum 100 lei per conventional norm (considering 50 lei materials expenditure, 35 lei, guaranteed payment for work, and 15 lei, profit) a level which cannot be considered as unattainable, we find that only a certain number of cooperatives meet this requirement.

Of course the productive force of work in agricultural cooperatives is influenced by the provision of technical equipment, in the first place by the extent of mechanization of farming operations. Moreover, the comparisons provided above indicate that the difference in the level of labor productivity between profitable and unprofitable cooperatives increases from the branches and crops which involve lesser mechanization (such as breeding of milch cows and potato growing) toward the branches where the existing fleet of machines permits great mechanization (such as wheat and sunflower growing). The establishment of the unified mechanization sector within the framework of the unified agro-industrial councils provides prospects for territorially evening up the working conditions and for expanding the productive force of work in cooperatives.

The greater consumption of chemical fertilizer, as an expression of ampler provision of work with technical means, has identical effects. For instance, as far as the winter wheat crop is concerned, the costs for fertilizer per conventional norm in profitable cooperatives are 42 percent higher than those in unprofitable cooperatives.

Certainly, at the same level -- even a high one -- in terms of mechanization and chemicalization of farm operations, the productive force of work is influenced by the productive capacity of plant strains and hybrids and animal breeds. Therefore, the more consistent promotion of advances of the biological revolution in the production of agricultural cooperatives is a part of the profound agricultural revolution which has to be realized.

In the context of the new economic-financial mechanism, the net output is the indicator which more correctly also expresses the productivity of agricultural work. This factor even more highlights the need for relative and even absolute lowering of the materials expenditure, for the purpose of boosting net output and, implicitly, both labor productivity and profitability.

Greater Efficiency of Materials Expenditures

In the program for the application of the new economic mechanism, of self-direction and self-management, for making all agricultural cooperatives more profitable, the significant rise in the efficiency of production materials expenditure seems to involve difficulties in terms of realization. Why? In the first place, the modernization of agriculture, by the acceleration of the process of intensification and diversification of production, is inevitably accompanied by the increase in the volume of materials expenditures. Moreover, under the conditions of greater labor productivity, in the structure of operating costs there is a decrease in the expenditures for payment for work and, in exchange, an increase in the volume of materials expenditures. This has resulted in the direct materials expenditures now accounting for almost two-thirds of all the production costs in agricultural cooperatives.

In the second place, the materials expenditures mostly have a relatively constant character and their size depends to a lesser extent on the production results obtained. Hence, there is a difficulty in implementing the fundamental principle of increase in the direct correlation between overall output and materials expenditures, for the purpose of raising the net output.

Consequently, in the overall production process, we must primarily focus on increasing the efficiency of the production materials expenditures, that is on obtaining, for each 1,000 lei of materials expenditures, a greater overall output, which should allow us to attain higher and higher levels of net output. Of course, in specific situations (of waste, mismanagement, and so forth) there also is the need for an absolute reduction of materials expenditures, a factor that enhances the positive impact of the more rapid rise in the overall output. The economic efficiency of materials expenditures is expressed by their volume in the overall output. The reduction of this volume signifies the corresponding increase in the volume of net output. Let us survey the situation in agricultural cooperatives and the measures which should be taken to raise the efficiency of production materials expenditures in this sector.

The fact that each 100 lei of overall output yields a net output of about 40 lei -- the remainder being materials expenditures -- very clearly shows how relevant the problem of greater efficiency of materials expenditures in agricultural cooperatives is. While in more than half of the number of cooperatives, for every 100 lei of overall output there is some 60 lei of materials expenditures, it is equally true that in one-sixth of the number of cooperatives, less than 50 lei are spent on materials factors and a net output of more than 50 lei is obtained. In a number of cooperatives, which still is too small, each 100 lei of overall output correspond to materials expenditures of less than 40 lei, with the remainder constituting the net output.

Consequently, we have an experience -- which not only is positive but in some cases also is advanced -- in the area of raising the overall output with minimum materials expenditures and increasing net output and profits. What are our reserves in this area, for the various branches of activity and factors of materials expenditures?

Particularly stringent is the need for increasing the efficiency of materials expenditures in animal husbandry, where 100 lei of overall output yields the lowest net output. Beyond the cost of fodder, there are two other decisive factors in the present context: the breed structure of the livestock, but especially the size and structure of fodder consumption. The adoption of a sensible structure is an outstanding factor for obtaining a higher rate of conversion of fodder, and thus minimise the relative consumption and raise the efficiency of consumption. The cases of proteic imbalance of consumption, of significant fluctuation in fodder provision from the outset also generate the increase in relative consumption. Moreover, the maintenance of some unsound, low-yielding animals is a factor in reducing the rate of fodder conversion, while mortality cases (especially in young animals) heighten materials expenditures. Therefore, making all animal output more profitable is a very complex matter, which involves concerted efforts in the area of fodder production and animal husbandry. We can assess the positive effects of better economic activity in this sector on the basis of a single figure: the expenses for fodder account for no less than one-third of all direct materials expenditures in agricultural cooperatives.

Next come, with more than a quarter of direct materials expenditures, the expenses for the projects completed by the unified mechanization sector under the cooperative relations between the agricultural production cooperative and the station for mechanization of agriculture. Furthermore, the change in the relationships between the agricultural production cooperative and the station for mechanization of agriculture will help to maximize the efficiency of these expenditures, which for the main crops now account for even more than one-third of all production costs. The old system of payment for services assessed upon the volume of works did not provide sufficient incentives to the station for mechanization of agriculture in more rapidly increasing the per hectare yield. The shift to the new system -- payment directly depending on the production obtained and remuneration under the overall contract system for the workers of the station -- provides an organizational and economic framework which promotes material incentives for all workers on the lands of the agricultural cooperative, in obtaining higher per-hectare output.

On this basis it also becomes possible to increase the efficiency of materials expenditures for seed and chemical substances whose volume in direct materials expenditures (now 12 percent and 15 percent respectively) is continuously on the increase. In the context of modern production techniques requiring greater per hectare density and in some cases the cost of seeds even representing the main factor of expenditures, the efficiency of these expenditures increasingly depends on the productive capacity of the strain or of the hybrid, in order to make best use of all the other conditions of production. Furthermore, strict compliance with the provisions on the sensible application of the fertilizer depending on the plant, soil, and other factors, plus the minimizing of loss in transportation and storage weigh heavier and heavier in terms of the efficiency of fertilizer consumption.

Also, there is the need for reducing indirect materials expenditures -- common and overall -- which provide extra reserves for raising profitability.

A direct outcome of the production activity, profit is nevertheless achieved at the point and the level of marketing of agricultural products. Consequently, in addition to the production cost, the marketing cost also impacts the amount of profit and the rate of profitability. Therefore, the quality of the agricultural product influences the very quality of economic activity. In a future issue of this review, we plan to again survey these matters.

11710
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ROMANIA

ROLE OF INTERNAL FINANCIAL CONTROLS IN SELF-MANAGEMENT

Bucharest REVISTA ECONOMICA in Romanian 18 Apr 80 pp 10, 11

[Article by Prof C. Topciu]

[Text] Obtaining qualitatively superior esults in economic activity requires strengthening discipline and the social responsibility of each worker for fulfilling the tasks entrusted, the direct participation of workers in making decisions, the exercising of exacting control by the workers over the way in which the decisions adopted are carried out. Self-control, as each unit's own tool, understood primarily as a quality of its leadership, has an important role in the decision-making process, in adopting and following the way the decisions are applied. Each leader of a unit and a department has the duty of organizing and utilizing a control system to the extent that it informs him exactly and on time of the activity carried out. Thus, a continual ebb and flow of information is necessary, which should serve the leadership in evaluating the extent to which the tasks have been fulfilled in accordance with the program established.

A Converging System of Control

Given the goals sought by control in the activity of an enterprise, the dominant place in carrying out self-control is held by financial control. The organization of it at the level of the socialist units is regulated by separate normative acts aimed at each one or another of the forms for carrying it out--preventive financial control, operationally current hierarchical control, internal financial control. Application of these legislative regulations in the strict sense and limiting the organization of control to the methods and goals they indicate, in our opinion, do not assure achieving a converging system of control capable of leading to a fragmentation of it and the appearance of some parallelisms or areas which remain outside the control. For that reason, the particular provisions should also be corroborated with those resulting from other normative acts (the Law on Finances, the Law on the Organization and Leadership of Socialist State Units and so forth) and from the requirements of the new economic-financial mechanism and achievement of a modern leadership in all the units and departments of activity.

its being a matter of the self-control carried out in each unit, I feel that the quantitative and qualitative tasks of each stage should be placed at the basis of its organization, tasks which are to be fulfilled through the joint effort of the leadership apparatus and of each worker separately. The legislative framework in this case should be considered as a minimum organizational condition and as the starting base for carrying out a control which is as comprehensive as is needed to fulfill the goals established with the maximum efficiency.

An analysis of a unit's graphical representation of organizational structure shows generally that the structures by which control is carried out appear to be additions within operational departments as if the control is a connected activity , in the sphere of only certain workers. In carrying out the requirements of economic-financial self-management and worker self-leadership in each unit, control plays an important role and for that reason a new concept in this regard must be formed, proceeding from the premise that it is carried out as a self-control exercised by and for us. Control activity not only is the prerogative of some initiatives but is organically integrated into the leadership process at all levels and, at the same time, must characterize the work of each worker whose duty is to become more and more the controller of his own work and activity as a whole.

To carry out self-control integrated into the entire labor process, each unit should plan its own control system based on existing structures which would comprise the informational ebb and blow needed by the decisionmaking factors, the forms and times for carrying it out, the goals sought, the delegation of duties and competencies, the way to utilize the findings and responsibilities in this regard. The system of self-control may be represented by a specific graphical representation of the organizational structure, along with the one for the organizational structures of the unit, which show the way in which each department participates in carrying out the control, how control information circulates vertically toward and from the leadership and horizontally among the departments, where the competencies are localized for adopting the resultant measures, depending on their importance and so forth.

Planning the Flow of Information

The unit's entire informational system must be integrated into the control system, organized and led in such a way as to answer the demands of carrying out self-control efficiently, taking into account the fact that information is the "raw material" of control. Given the close ties between the informational and control system, there is great importance in the way the former operates, since a rise in the efficiency of control is a condition of improvement in the informational system for the reason that effective knowledge of the development of all aspects of the economic processes creates conditions for carrying out efficient control which permits adopting the most indicated measures promptly.

The opportunities offered by each form of control must be put to maximum use in applying self-control system. If preventive financial control is kept in mind, it should be remembered that its effectiveness depends to the greatest extent on its organization. This form of control is dependent on the informational flows carried out through the circulation of documents which reflect the operations subject to control. For that reason, the condition for a good organization of internal financial control and of carrying it out promptly, steadily is the planning of the particular informational flows.

Planning the informational flows needed for preventive financial control involves plotting the circulation of each document subject to control, by which the steady supply of all needed information is assured each controller and the optimum point of control is established, without prolonging or hindering the circulation of information through the control.

Plotting the new circulation clearly is made by proceeding from a criticial analysis of the existing circulation for the documents, eliminating the winding flows of information and useless information, establishing for each operation the most advantageous point for carrying out the preventive financial control, the minimum information it requires as well as the documents it comprises. It is necessary to obtain certain advantages through the new models, as, for example, raising the efficiency of sending information, improving the quality and exactness of the information, eliminating useless information and concentrating it in a restricted number of documents, eliminating parallelisms in sending and verifying information and assuring that efficient preventive financial control is carried out.

Another organizational condition on which the quality of preventive financial control depends is also strict application of the information models established as well as assuring a constant rhythmicity in thecirculation of documents. Without this kind of normal flow, the control problems would get crowded in certain periods, which through the force of jobs would lead to carrying it out formally, particularly if it is kept in mind that those carrying it out also have other current job duties of another kind, which cannot be neglected.

The Valences of Effective Current Control

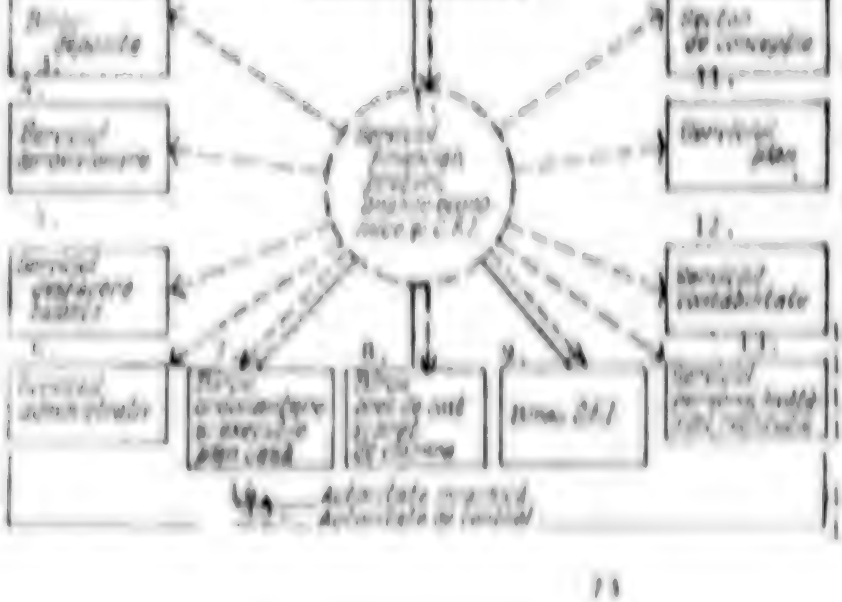
An important role within the self-control system must be assured in each unit to effective current control, whose basic characteristic is that of being carried out simultaneously with the financial-economic operations and at the spot where they are being produced. According to its current regulations, this control is conceived only as a hierarchical control carried out within and outside the units at least once a month. In our opinion, to limit this form of control in this way is not capable of assuring the necessar valences fot effective current control. By its very nature, this control must be carried out permanently and simultaneously with the production of economic-financial phenomena and in the places where they take place. In order to be efficient and effective, this control should follow the operations so closely that the deviations found can be corrected as soon as possible. However, limiting the exercising of it to once a month and taking into account the goals fixed for it, it would become sporadic later, too.

In our opinion, in treating the problem of the organization and carrying out of effective current control, also to be kept in mind are the more recent legislative regulations which establish the enterprise director's duty to assure control over task fulfillment and to seek application of the measures approved and the head accountant's duty of assuring fulfillment of the duties belonging to the accounting-financial department regarding preventive financial control, effective current control and analysis on the basis of the balance of results of the unit's activity.

Clearly, effective current control must be understood and applied within the units, primarily hierarchically, by the personnel with leadership jobs within the current job duties belonging to them. In order to be able to fulfill its jobs, it still has to be carried out, in our opinion, as mutual control between the departments and mutual control among the workers. As a result, beside its hierarchical nature of a control carried out vertically from top to bottom, effective current control may also be carried out horizontally, between the operational departments of the enterprises as a mutual control based on efficient information currently circulating from one department to another.

Mutual control between departments, as an element of the integrated system of self-control, in turn must be planned on the basis of the ebb and flow of information between departments, taking into account their duties, the circulation of the documents concerned, the most appropriate point for the control and the elements which are to be checked. The diagram below, based on the example of an enterprise with status as a central, expresses the way that the effective current control is carried out by the financial service in its relations with other departments.

Diagram of Main Relations Between Financial Service and Other Departments in Carrying out Effective Current Control



Key:

1. Financial service, prices, economic analyses and internal financial control
2. Head accountant
3. Warehouse office
4. Supply service
5. Sales-balances service
6. Administrative service
7. Order, house plan office
8. Cost price, sale price office
9. Internal financial control office
10. Design sector
11. Plan service
12. Accounting service
13. Personnel, education, salary service
14. Hierarchical aurhotity
15. Control authority

One may rightfully feel that effective current control, if it uses all the channels specific to it, is the most efficient form of control in overall control levers which may be applied in each unit through its all-encompassing nature and the effectiveness with which deviations may be determined and action taken to eliminate them. This evaluation in no way diminishes the role of preventive financial control, but it takes into account its somewhat more limited nature, since it has in mind in particular the aspects of respect for the legality and spirit of saving in commiting assets and, generally, in carrying out asset operations.

Effective current control is the area of economic-financial activity in which the creative contribution and fantasy of the unit's leaders and apparatus they have available may be demonstrated for building such a system for reporting and investigation along the way which would no longer leave room for any kind of deviation. In these conditions the subject of subsequent control would be restricted very much, which could take on more the form of analyses and anticipatory studies, prospecting for the future and discovering new reserves which could be utilized through the annual and long-range plans.

Each economic unit's system of self-control must be the main motor force for firm application of the new economic-financial mechanism. Full success in fulfilling the principles of worker self-leadership and self-management, in our opinion, may be assured to the extent to which control is supported by the broadest possible mass of workers. Through control the workers are drawn into the decisionmaking and leadership process and, at the same time, they are being educated in the spirit of self-discipline, which is strictly necessary for exemplary fulfillment of tasks.

In this direction, the budget of incomes and expenses also may contribute; its role should increase in the enterprises' activity. In order for it to be an effective means of worker self-control, such measures should be adopted so that each worker through it may follow results of his own activity. Keeping the budget of incomes and expenses as a centralized document at the unit level as well as seeking to fulfill its indicators in the same way are not able to assure fulfillment of its jobs. For that reason, the indicators of the budget of incomes and expenses must be layed out in as detailed a way as possible and grouped into more than one "micro-budget" worked out by areas of activity, by departments, work collectives and so forth.

Some indicators, as, for example, net production, should be layed out and followed by groups of products in order to effectively reflect the efficiency of economic activity and in order to operate as levers of the material incentives for workers to fulfill it, since the efficiency of activity of an enterprise in the end depends on the contribution of newly created value which each product with which it goes to the market makes. To the same extent, the effort of each worker collective must be evaluated and it must have the opportunity to have as exact as possible a knowledge of the quality of the results of its own activity.

So, in applying the measures to improve the economic-financial mechanism,control, primarily conceived of as self-control carried out by the workers' collectives in each unit, has the task of contributing to a greater extent to carrying out self-management and worker self-leadership and to fulfilling and overfulfilling all the indicators provided in the budget of incomes and expenses. In achieving this goal, each unit must create and utilize its own system of self-control by applying and adapting to its specific nature the legal provisions in this case and involving athe entire worker collective in carrying it out by ways and through forms specific to each activity.

8071
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ROMANIA

COOPERATION AMONG FACTORIES IN MACHINEBUILDING INDUSTRY

Bucharest REVISTA ECONOMICA in Romanian 18 Apr 80 pp 2, 3, 9

[Article by P. Hotaru and M. Vertenstein]

[Text] Making the social division of labor more profound through the specialization and development of relations of cooperation in production is a permanent accompaniment to industrial development in producing technically and economically competitive products. Precisely for this reason, Comrade Nicolae Ceausescu stressed that "the enterprises, centrals and ministries should be concerned in particular with the development of concentration, specialization and cooperation, which contribute to an important extent to raising labor productivity, reducing costs, raising the quality of production and increasing profitability. Special attention must be given to regulating these problems in machine building."

In the context of the need for developing collaboration in production between enterprises, our analysis proposes to follow the evolution of interplant cooperation in the machinebuilding industry and to bring out ways for efficiently extending this process under the new conditions of the action of the improved economic-financial mechanism.

Changes Caused by the Intensive Development of Industry

In the 1976-1979 period and the prospects for 1980, the volume of cooperation has evolved and is estimated to evolve according to the figures in the table.

Evolution of Cooperation in Production at the Ministry of the Machinebuilding Industry in the 1976-1980 Period (%)

Indicator	Fulfillments					Plan
	1975	1976	1977	1978	1979*	1980
Goods production	100.0	112.4	131.7	143.6	160.0	185.6
Volume of semi-manufactured products and products from cooperation	100.0	112.6	120.1	129.5	144.2	167.3

* Preliminary

At the same level we also show that in 1981-1985 a growth is forecast in the value of cooperation which is approximately proportional to the volume of goods production.

At the same time, a relative growth is being recorded in the share of semimanufactured parts from cooperation in expenses per 1,000 lei goods production, an evolution which represents both the result of intensification of the exchange of activities between enterprises, as a result of growth in the complexity of production and deepening of the specialization and profiling of the producers under conditions of the steadfast diversification of the variety of production as well as important tasks to reduce costs in the years of the next five-year plan. As a result, the demands of the national economy in the full swing of development have brought an increase in production which is being achieved under the conditions of modern technology and techniques with the smallest expenses of social labor, through rational specialization and cooperation.

Organizational factors also have affected this evolution of cooperation. We know that in Romania today, depending on the demands of the various branches of the national economy, entire families of products are being produced with a large range of construction and operational characteristics. However, what is different than in the 60's, when one or two enterprises of the type were operating in Romania in the machinebuilding industry, is the fact that 5-10 enterprises are in operation today, ones which produce a certain product from one family. Naturally, in this context relations of cooperation should develop between the particular enterprises for delivery of parts and subassemblies specific to the manufacture of a certain product.

Major economic problems in the process of achieving efficient cooperation sometimes appear due to the fact that it is considered in the calculations of price that a complex final product--let us say a certain type of tractor--is produced under conditions of integrated manufacture in a single enterprise. However,with time, parts or even entire subassemblies of the complex final product are obtained through cooperation in the process of development of the specialization of production and deepening of cooperation. Under these conditions, naturally, the supplying enterprise delivers the parts or subassemblies not at the manufacturing cost but at the production price. Clearly, under the new conditions the beneficiary enterprise increases its volume of production, however the unit costs of the complex final products will be greater than those with which it produces the product under conditions of integrated manufacture. In our opinion, it is essential that, as a result of development of specialization and cooperation, a number of profits should be achieved through increasing the volume of production and reducing costs under the new conditions which would compensate for the rise in costs of the complex final product, a result of including the subassemblies from cooperation at the production price into the cost.

The Planning of Cooperation and the Relations Among Enterprises

An important social-economic activity, cooperation in production is planned, with the unified programs for cooperation being established in a separate section of the single national plan for social and economic development. Taking into account that the activity of cooperation, on one hand, involves the quality of the producer and, on the other, that of the beneficiary of parts, subassemblies, assemblies, semi-manufactured parts and so forth, the unified programs for annual cooperation are divided into two big groups:

I. Unified program for cooperation in production between producer and beneficiary which, in turn, comprises the unified cooperation program between ministries, other plan-holding central organs and county people's councils; the unified cooperation program between industrial centrals in the ministry; the unified cooperation program between enterprises within each ministry's central.

II. The unified program for cooperation in production between beneficiary and producer, which includes the unified program for cooperation among ministries, other plan-holding central organs and county people's councils; the unified program for cooperation between industrial centrals within the ministry; the unified program for cooperation between the enterprises within each central of the ministry.

By having the programs for cooperation specify the tasks by plan holders as well as by quarters, in physical units, the producers and beneficiaries of parts, subassemblies, assemblies, semi-manufactured parts and so forth, in cooperation, can organize their activity appropriately for the production and sale of the products.

Seeking that the most important possible economic effects are obtained through development of cooperation, the Ministry of the Machinebuilding Industry issued an order whose provisions basically seek to achieve more and more efficient relations among enterprises. Issuance of this order was caused by the special rigors of the improved economic-financial mechanism, according to which it is necessary to make a solid analysis of each assembly and subassembly acquired through cooperation through the prism of the effects which appear between the costs needed to obtain them under integrated conditions (producing them in the enterprises) and their acquisition price, with which they are currently incorporated into the complex final product.

Under the new conditions, all the enterprises which produce and deliver semi-manufactured parts (assemblies, parts and so forth) in cooperation are required to furnish data referring to the level of costs with which they are produced upon request of the beneficiary units. For the parts and assemblies from cooperation which figure in the plan at the time of the analysis and are part of the following categories--a) controlled by the coordinators of balances and b) produced in specialized units (for example, axles and bogies for locomotives and train cars and so forth)--and for processing by machine-tools which do not figure in the supply of the enterprise, it is not compulsory to present comparative data regarding efficiency. The enterprises which have built semi-manufactured parts intended for cooperation and which are to be taken over by the enterprise using them for integrated manufacture, upon its request will transfer the technical and operations documents. Also, materials, tools, devices and controls and equipment which concern producing these assemblies exclusively by cooperation will be able to be taken over.

At the same time, conditions have been regulated for contracting of assemblies, subassemblies and other semi-manufactured parts from cooperation for new or modernized products. This contracting is to be done only on the basis of a study of need, timeliness and economic efficiency, which obligatorily must include a comparison between the cost of the subassemblies through cooperation in the situation of producing them in the utilizing enterprise (calculated beforehand) and the acquisition price (production and delivery prices, respectively). In the case where the acquisition price exceeds the cost of those assemblies being produced in the enterprises by more than 6 percent, the contracting can be done only with the approval of the deputy minister who coordinates the central and with the condition that it fits into the planned production costs for the user product of the semi-manufactured parts from cooperation within the limit of the planned indicator of "maximum expenses per 1,000 lei of goods production." Exceptions to these provisions are the cooperation directed by the plans, which are carried out in specialized units or on machinery which does not figure in the supply of the enterprise and the acquisition or transferring of them is not justified, either.

Reasonable regulations also have been set for situations in which temporary cooperation brought by stoppages or insufficient capacity in a limited time is initiated. Under such conditions it is necessary that the documents forwarded for approval also specify the time limit in which the enterprise and the central will implement measures to eliminate the bottleneck. The movement of assemblies or parts in cooperation is to be done only in the situation where the result from the study compiled and from the contracting offer is that the acquisition price is much smaller or at most equal to the costs achieved in the enterprise which proposes the transfer and is to utilize the semi-manufactured part from cooperation.

Also regulated are the conditions for transfering the manufacture of some products, assemblies and subassemblies. Thus, the proposals to transfer the manufacture of products, assemblies and subassemblies among enterprise within or in enterprises of the Ministry of the Machinebuilding Industry for various units under other ministries and central organs which hold the plan or from them to enterprises of the Ministry of the Machinebuilding Industry are to be accompanied by a technical-economic document which substantiates the need, timeliness and economic efficiency, the result of which at the unit which is handing over the manufacture as well as the unit taking over the manufacture are the following aspects: the loading of the production capacity before and after the proposed transfer; effect on the plan for variety production and assurance that the contracts are fulfilled; effect on the indicators of the single national plan as well as the departmental plan assigned to the enterprises; the method of assuring the material-technical base (fixed assets which are to be transfered, assurance with forged and soldered parts and so forth).

The enterprises and centrals, respectively, which make transfer proposals are required to supply the necessary measures so that the proposed transfer does not unfavorably affect some plan indicators and does not lead to the failure to fulfill them, since the eventual unfavorable effects which would occur as a result of approving the proposed transfers are not covered by the change in the plan indicators on the basis of redistribution of tasks between units. An exception is to be made only in the cases where the proposed transfer unfavorably affects a certain indicator for one of the two units and favorably affects the same indicator at a level equal to or greater than the unfavorable effect for the other enterprise so that a compensation can be made between them without negative effects on the beneficiaries of the product. Such situations are to be agreed upon in a document drawn up bilaterally between the two enterprises.

On the basis of approval of the competent organs of the transfer of manufacture from one enterprise to another, protocols are to be concluded between the particular units which will establish the mutual duties regarding turning over the technical documents, preparation of manufacture, supplying the material-technical base, taking over the contractual duties and so forth. The protocols drawn up in this way are approved by the director general (directors) of the central (centrals) which coordinate the enterprises,of which one copy is to be sent to the coordinator of the balance. The change in supplier is to be communicated to the beneficiaries of contracts by the enterprise taking over the contractual duties; it will issue the draft additional act with a view to regulating the new contractual relations.

Carrying out the cooperation under good conditions also has required regulating the removal of some products or subassemblies from manufacture.Thus, it is prohibited to remove from manufacture a product or subassembly as long as the particular product or subassembly has not been replaced with another one which would continue to supply the need of the internal beneficiaries and obligations assumed by contracts or conventions with the foreign partners as well as for spare parts for domestic and foreign beneficiaries. Also, advisement to remove products coordinated by the Ministry of the Machinebuilding Industry from manufacture,products produced in other socialist units under the central or local state organs, as well as cooperative organizations and other public organizations is given by the Ministry of the Machinebuilding Industry at their request with respect for the legal provisions in force. All these regulations may contribute to raising the demands for achieving more and more efficient interplant cooperation to a higher level.

The Effect of the Prices of Some Semi-Manufactured Parts Assured Through Cooperation on the Cost of the Finished Product

In accordance with the provisions in force, production prices for a number of important products for the national economy in the machinebuilding branch have been established by including the assemblies from cooperation into the calculation of price without profitability. This method, which has led to establishing of smaller production prices (by lessening profitability), was adopted for the purpose of assuring the necessary conditions for improving the efficiency of export, reducing the cost of investments and so forth. At the same time, it was forecast that this method could also be applied to other new products with advisement of the State Committee for Prices, the State Planning Committee and the Ministry of Finances.

It is certain that a powerful development of the machinebuilding industry's production took place in the 1976-1980 period together with extending of cooperation and, within this, the volume of subassemblies and assemblies exempt from double calculations of profitability, in accordance with the provisions of Article 10 of Decree 200/1975. Among the industrial enterprises which recorded the greatest effects due to the provisions of the decree mentioned are the Bucharest Bus Factory, the Arad Lathe Enterprise, the Bocsa Machinebuilding Enterprise, Unio in Satu Mare and the Tirgoviste Petroleum Equipment Enterprise. Since a certain effect from applying the provisions of Article 10 of Decree 200/1975 was kept in mind in recalculating the value indicators of the current five-year plan for the Ministry of the Machinebuilding Industry, on the basis of the 1976 price set-back, the growth in the share of semi-manufactured parts and subassemblies from cooperation, which are included in calculating the price without profitability, the central organs of economic synthesis, on the basis of well-founded analyses carried out in a number of economic units (The Arad Lathe Enterprise, the 1 May in Ploiesti, the Brasov Industrial Central of Transport Vehicles, the Brasov Industrial Central for Tractors), solved this problem favorably even last year.

As a result, it is not enough in the process of planning the value indicators and, primarily, costs for the enterprises automatically to be given the level of effects resulting from the calculations but each time it is necessary to make a complex analysis of factors of effect, favorable and unfavorable, for making the most objective possible determination of the possibilities each unit with a view to raising the contribution of all the labor collectives to fulfilling the goals in the single national plan for the country's social and economic development.

Proposals

On the basis of analyses made of the economic efficiency of cooperation in production in the context of the special tasks belonging to machine building in light of the documents of the 12th party congress, we favor the development of this activity in the following ways:

Intensify the concerns of the ministry, departments and industrial centrals with defining the concept of cooperation and making the strictest possible delimitation of the relations of cooperation with those of supply. In this regard, we favor continuing the economic-technical analysis of the flows of relations with a view to detailing them, defining the relations of cooperation more strictly with those of supply and adopting the most appropriate methods for characterizing the two types of flows of relations in order to be able to become operational without delay;

Make a study beforehand of the specific conditions of cooperation in production, the timeliness and efficiency of this action and proceed to begin action only following knowledge of the data on the efficiency;

Study the possibility of assuring the production capacities in the beneficiary units for forged and cast parts, taking into account some of the unfavorable effects on production costs from cooperation in production for the beneficiaries;

Extend cooperation with the specialized enterprises which produce products with reduced costs and with a maximum 10-15-percent profitability;

Take into consideration that the cooperation in the enterprises should be located at relatively small distances in order to reduce transport costs;

Generally, build the particular part or subassembly in just one enterprise. Currently there are some important parts being built in two-three enterprises, thus creating conditions where the transport, handling, loading-unloading expenses are increased as well as where losses appear as rejects due to these operations.

Establish the price of parts in cooperation for new products only after approval of the final product cost, while the profitability of parts or subassemblies assured through cooperation should be below the limit of profitability of the complex final product.

8071
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YUGOSLAVIA

FAVORABLE RESULTS FROM ECONOMIC COOPERATION WITH ITALY

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 24 Mar 80 p 36

[Text] Economic cooperation between Yugoslavia and Italy, which in recent years has been growing steadily, provided good results again in 1979. On the basis of trade in goods last year, a total of $1,772,600,000 was recorded (with Yugoslav exports at $683,700,000 and imports at $1,088,900,000, so that imports were covered by exports at a rate of 62.8 percent). Compared to 1978, trade in goods grew by 30.5 percent, as a result of approximately 32 percent increase in Yugoslav imports and 29 percent increase in exports to Italy. In absolute values, Yugoslav exports grew by about $153 million, and imports by $217 million. The matter of the trade deficit ($405 million), however, continues to be serious and amounts to 6.6 percent of Yugoslavia's total balance of payments deficit in 1979. Last year Yugoslavia imported mainly the following items to Italy: wood and wood products, agricultural and processed food products (including cattle, veal, vegetables and raw mushrooms), chemical and pharmaceutical products, and, to a much lesser degree, ferrous metallurgical products, artificial fertilizers, and textiles (cotton and woven textile fabrics).

In the period 1968-1979 103 agreements were concluded (with 6 in 1979) for longterm production cooperation, but with an insignificant share of Yugoslav exports (4 percent), which came in the automobile industry, in the agricultural machinery industry, and in electrical products. There were 32 agreements (2 in 1979) for joint investments with a value of $4.242 billion (with the Italian share being $1.285 billion, or 70 percent of the total value) [figures as published]; of these, investments involving the Crvena Zastava and Fiat auto companies amounted to 50 percent. Between 1973 and 1979, 60 agreements were concluded on the acquisition and granting of industrial rights (5 in 1979); these were chiefly in metal-processing and electronic industries, followed by construction, automobiles, food processing, and chemical and pharmaceutical industries. There were 19 agreements for business and technical cooperation. In the past 9 years, 23 agreements were concluded for capital investment projects in Yugoslavia and 16 in Italy, while last year 4 agreements were concluded for joint investment projects in developing countries (in Nigeria, Vietnam, and Libya). In 1979 border economic cooperation increased by 70 percent over 1978, and the recent negotiations with the European Common Market are opening up possibilities for more adequate application of preferential arrangements with Italy, so that in the future even more successful business results can be expected.

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DATA ON POPULATION SHIFT FROM RURAL AREAS TO CITIES

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[Text] The socioeconomic transformation of the Yugoslav population continues to proceed in a rapid and comprehensive manner. As in few countries in modern history, in Yugoslavia in the past 3 decades the proportion of the population living in rural areas has decreased from about 3/4 to about 1/3, and all republics and regions of Yugoslavia have been involved in the process. The city population has increased just as rapidly in the total, going from about 1/5 in 1948 to nearly half of the total population today. For 1978, the year of the last real estimate in Yugoslavia, 45.9 percent of the population lived in cities (compared to 20.8 percent in 1948 and 28.3 percent in 1961). In the same year the city population in Bosnia and Hercegovina was 33.8 percent, in Montenegro 43.1 percent, in Croatia 48.1 percent, in Macedonia 57.3 percent, in Slovenia 44.2 percent, and in Serbia 47.9 percent (with 49.3 percent in Serbia proper, 32.3 percent in Kosovo, and 56.0 percent in Vojvodina).

The obviously high percentage of the city population in Macedonia is a result of the broad and rapid development of Skopje as well as of other cities, and partly as well due to the relatively large number of people leaving villages of this republic to go abroad and to other republics. On the other hand, in Slovenia the situation is exactly the opposite: in that republic not a single city, including Ljubljana, increased in population, for nearly all towns are connected by good transportation links, a policy of dispersion has been followed in the development of industrial and other facilities, and fewer people left for foreign countries than from other republics.

The varying dynamics and policies in the growth of the urban population has had and continues to have a number [illegible] related trends and consequences, such as the great needs for housing construction, for communal and other public facilities, the development of city traffic, difficulties in supplying the inhabitants, and quite a number of so-called "city unemployed..."

Along with the growth in urban population and other changes in the socioeconomic structure of the population, in recent decades all republics and provinces have seen a decrease in the percentage of the population of working age in total population, i.e., in the total population there are growing numbers of children and youth, and of persons older than 60 or 65 years of age.

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